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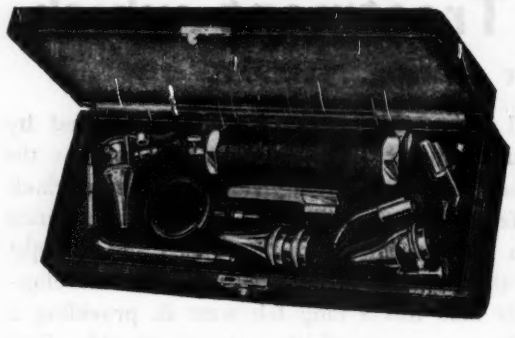

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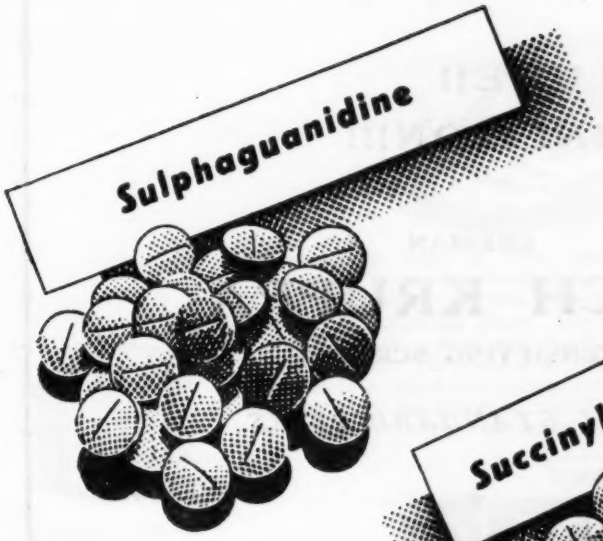

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THE FOOD AND POPULATION PROBLEM IN INDIA*

A. B. GILROY, O.B.E., M.B., B.S., D.T.M. & H., Principal,
Ross Institute of Tropical Hygiene, Cinnamara P.O., Assam

NO MATTER how enormous the population of India may be, yet there will be no food problem if everyone receives a diet adequate for a full and healthy life. People in high places are by no means agreed that a problem does exist. It is, therefore, necessary to discuss the present size of the population and its probable trends in the future, the quantity of food available and the likelihood of increasing the supply. If it then appears that there is an imbalance, it follows that there is a problem and possible solutions and implications can be discussed and examined.

Until the present century the population increase was sporadic, in some years growing rapidly only to be set back by famines and epidemics in others. Since 1921, however, growth has been steady at a rate of about 1.2 per cent per annum. The rate may seem surprisingly small yet so vast is the 'Principal' to which it applies that, as Kingsley Davis (1951) points out, a rate no greater would double the population in 58 years.

The Birth Rate

A study of the Indian birth rate is made difficult by the known imperfections of registration and it has been estimated that 10 or even 12 births per mille should be added to the reported rate to give an approximation to the actual true birth rate.

TABLE 1

The Birth Rate in India per mille

PERIOD	ESTIMATED	REPORTED
1881–1891	49	...
1891–1901	46	34
1901–1911	48	37
1911–1921	49	37
1921–1931	46	33
1931–1941	45	34
1951–	...	27

Note: Last entry from *Epidemiological and Vital Statistics Report*, Vol. 5, No. 7, W.H.O. Geneva, July 1952. All others from *Population of India and Pakistan*, Davis, Kingsley.

* Condensed from a paper read at the Annual Conference of the Christian Medical Association, Jorhat, Assam, December 1952.

It will be seen from Table 1 that while there has been a fall in the birth rate, both reported and estimated, over the past 60 years yet the fall has been slight and the rate is still very high. The latest reported rate, for 1951, is 27 per mille but it is extremely doubtful if the true rate approaches this low level. For example, on Assam tea estates, where births are accurately recorded and where conditions resemble vast areas of rural India, the birth rate in 1951 was 44 per mille.

The Death Rate

If the decline of the birth rate has been very gradual and its extent still uncertain, there is doubt that the death rate has fallen steadily and halved itself in 40 years, having fallen from 32 per mille in 1911 to 15 per mille in 1951.

TABLE 2

The Death Rate

Average for five-year periods

1911–1915	30·2 per mille
1916–1920	38·2 ,,
1921–1925	26·3 ,,
1926–1930	24·6 ,,
1931–1935	23·6 ,,
1936–1940	22·3 ,,
1941–1945	22·5 ,,
1951 (single year)	15·1 ,,

Note: Last entry from *Epidemiological and Vital Statistics Report*, Vol. 5, No. 7, W.H.O. Geneva, July 1952. All others from *Population of India and Pakistan*, Davis, Kingsley.

Every extension of hygiene and social services, every major preventive measure such as anti-tuberculosis and anti-malaria campaigns, every discovery of potent therapeutic substances, all these are reflected in a falling death rate.

The Expectation of Life at birth may be cited as an illustration of the slowly improving health. The earliest Life Table, that of 1871, gave the expectation of life at birth as 24.6 years. The succeeding 60 years to 1931 increased the expectation to only 26.8 years, but the next ten years added 5 years to the expectation, lamentably low though the figure may still be.

The increasing expectation of life and the falling death rate pose a most difficult problem for the medical profession. As Vogt (1948) says in his book, *The Road to Survival*, 'Through medical care and improved sanitation they (doctors) are responsible for more millions living more years in increasing misery.'

The Natural Increase

A birth rate, falling slightly but still at a high level, measured against a death rate that has shown a steady and substantial fall over long years, results in a high rate of natural increase, a rate that rises yearly as the death rate falls lower.

The reported rate of increase was 11.5 per mille in 1951. If this figure does not seem impressive, its magnitude may be appreciated when it is pointed out that it adds about 4 million a year to the population and in a decade will add a number not far short of the total population of the United Kingdom.

If the birth rate continues its slow fall and if the death rate falls year by year at its present rate then, if no major disasters occur, the population may reach a total of 600 million by the end of this century and, indeed, some predictions place the total nearer 800 million.

THE FOOD SUPPLY

India's foremost demographer, Dr S. Chandrasekhar (1950) has stated the present position very vividly. He says, 'Thus the average Indian's income, it must be repeated, is just enough either to feed two men in every three of the population, or give them all two in place of every three meals they need, on condition they all consent to go naked, live out of doors all the year round, have no amusement or recreation and want nothing else but food, and that, the lowest, the coarsest and the least nutritious.'

It has been shown that four million persons are added to the population each year and Sen (1950) estimates that each year one million tons of cereals more than the year before are required and even then will provide only a subsistence diet.

Assam furnishes a striking example of how a population can out-grow its food supply. The population, at the 1951 census, was 9.1 million. For purposes of calculating food requirements the total may be taken as representing 7.28 million consumption units. The rice crop, according to the Ministry of Food Bulletin, 'Area and Production of Principal Crops in India,' was 1.3 million tons. Deducting the usual 12½ per cent for seed and wastage, the balance represents 15 ozs. per consumption unit a day with a calorie value of 1,500. Thus a province that not so long ago had surplus rice for export must now depend on imports to supplement its inadequate production.

There are three main ways of increasing food supplies, viz., by increasing the yield per acre, by extending the area under cultivation and by importing food-stuffs.

The yield per acre of cereals is very low indeed as Table 3 shows.

TABLE 3

Comparative yields of rice and wheat (British India = 100)

COUNTRY	RICE	WHEAT
British India	100	100
Siam	116	112
Egypt	241	...

Country	Rice	Wheat
China	293	152
Japan	256	180
Italy	337	154
Australia	292	116

Note: From *Population of India and Pakistan*, Davis, Kingsley.

Yield per acre of rice and wheat

A disturbing feature is the apparently decreasing yield. Thus the Ministry of Food and Agriculture Bulletin, 'Area and Production of Principal Crops in India, 1948–1949 to 1950–1951' gives the yield of rice per acre as 698 lbs. in 1948–49, and only 605 lbs. in 1950–51. Unfavourable climatic conditions may account for the fall, yet it is ominous that an additional 2,973,000 acres were under rice at the end of the three-year period, yet the yield was 2,208,000 tons less than three years before.

There appears to be ample evidence that nitrogenous fertilisers would increase rice yields, perhaps by as much as 50 per cent. Dr Baljit Singh (1947) quotes an agriculturalist's estimate that 132 lakh tons of sulphate of ammonia is required for the various crops of (presumably pre-partition) India. It remains a matter of doubt whether small-scale and impoverished cultivators can be persuaded to use a chemical fertiliser or whether they can afford to purchase it. The *Statesman* of 23rd February 1953 quotes the Union Minister of Production as saying that the demand for fertiliser from the new Sindri factory had fallen, causing accumulation of stocks, as the credit facilities of consumers have shrunk. He stated that a plan for making fertiliser available to cultivators on a barter basis, in exchange for rice and wheat, was under consideration.

The area of land that is still unused and could be cultivated varies greatly from province to province as the following table from Karve (1949) shows.

Table 4

Proportion of cultivated to cultivable land per cent

Province	Cultivated land per cent of cultivable land
Bihar	99
U.P.	80
Madras	78
C.P.	67
Assam	34

Note: From *Indian Population*, Karve, D. G.

Proportion of cultivated to cultivable land

It is difficult to believe that suitable land would be allowed to lie idle in this country where the population pressure is so intense. It is more likely that much of the cultivable land will require extensive clearing and

costly irrigation and, even then, may not be ideally suitable for agriculture or capable of being economically farmed by private enterprise. Nor must it be forgotten that the clearing of forest for the plough, with its resultant evils of soil denudation and erosion, may be a tragedy and not an advance.

Imports of food-grains are a matter of economics and are outside the range of this discussion. It may however be noted that in other countries also, decreasing yields are reported whether due to diversion of land from food crops to live-stock (as in Australia) or to soil exhaustion.

Regarding the former, an official Australian publication, *Austral News* of February 1952, states that the area sown to wheat in 1951–1952 was 21.1 per cent less than the average sowings for the five years ended 1938–1939. As some evidence of soil exhaustion, the *Statesman* (23rd January 1952) reported that the E.C.A.F.E. mid-annual survey showed that while rice production in S.E. Asia was now back to pre-war level, it required 8 per cent more acreage to produce it.

BALANCING THE ACCOUNT

It is more than 150 years since Malthus compared the growth of population to a hare for speed, and the increase of food supplies to a tortoise. Means of persuading the tortoise to move faster do not appear to be very effective and it seems that he has almost reached his maximum speed. Is it not evident that the only hope of keeping the two together is to slow down the hare?

Again it must be insisted that the problem is not merely one of feeding the existing population but of providing for the additional 4 million that there will be next year and the 40 million that may be added in the next decade.

Nor again it is only a question of food supplies; every public service and every amenity will be largely nullified by the strains imposed by the ever increasing numbers.

Thinking not of India but of the world, Prof. A. V. Hill, at the British Association meeting in Belfast in 1952, said, 'It is not a question only of food; if a higher standard of life is to become universal, with education, communications, housing, reasonable amenities and public health, a far greater demand will be made on all such natural resources as power, chemicals, minerals, water and wood. One is left wondering how long these can possibly take the strain.'

Malthus believed that eventually three major checks would operate against the continued population growth—famine, pestilence and warfare. Must man wait, with resignation and in increasing misery, until these grim three arrive on the Indian scene or can he, by thoughtful planning and directed effort, avert disaster?

Population planning can depend on slow social processes such as education, a raised standard of living and industrialization; or it can be directed to family limitation by birth control.

Education of the masses becomes more and more hampered by the increasing demands on schools and teachers. Raising the standard of living seems a losing battle when more and more arrive to share the goods that are already too scanty.

Industrialization is often put forward as an easy solution but, as Kingsley Davis (loc. cit.) remarks, to be effective before the population

total has reached unmanageable proportions, it must be forcibly imposed and *rapid*, and rapid industrialization will not come soon or without profound, and violently resisted, effects on the nation's social structure.

Thus the case for limiting the size of the family seems overwhelmingly strong. Dr Chandrasekhar (loc. cit.) says, 'An Indian policy should be to slacken the general rate of increase.' And, again, 'The Government must distribute contraceptive literature with the ration card. There is no place for obscurantism for the simple reason there is no other way out.'

It is when we ask what specific advice is to be issued with the ration card that we realize the difficulties and see how far research has lagged behind an urgent need. As Balfour et al. (1950) has said, 'The problem of reducing the fertility of peasant populations has two parts, one relating to motives and the other to means. Without the motives for family limitation, no means will suffice; and with weak motives, efficient means are required. There is ample evidence of the low level of present interest in restricted childbearing in Asia's rural population. At present, there are no means of control which meet the needs of Asia's rural population. Both of these problems are critically important, both are amenable to attack and neither has received the attention it deserves.'

It is difficult to avoid the conclusion that there is a grave disparity between food supplies and the multitudes that must be fed; further, the food problem will become yearly more acute.

If it is accepted that limitation of family size is necessary, then it must be recognized that development of the motive, by education and propaganda, will be a slow process and the interval should be used to discover suitable means.

Though its extent is as yet unknown to us, there is a limit to the time that remains for man to decide whether he will shape his destiny and, if he so decides, to act.

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CHRISTIAN WITNESS THROUGH HEALTH EDUCATION *

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DURING the war I travelled in a country train with a young soldier, who was going on leave to visit his home in a remote jungle village. He was proud of his new uniform, and took great pleasure in showing the tins of food he was taking home with him. Amongst these tins was a tin of spinach. This is probably the most popular kind of leafy vegetable amongst English people. It was a time when very similar green leafy vegetables were cheap and plentiful in the villages, but there was no doubt that the sodden lump of green stuff extracted from the tin with great difficulty would be considered a very special addition to the meals of the family. Granted that spinach is a valuable food stuff, but to get it out of a tin when it is available in the gardens or the bazaar at a fraction of the cost would be a poor use of the money available for the food of the family.

In the drug markets of the world the same sort of conflict is going on. There has never been a time when so many medicines have been put out for sale. One has only to think of the number of advertisements one receives every week. Each firm competes with the others in producing the same kind of medicine, and spends huge sums of money in the endeavour to make its produce more popular than those of its rivals.

These drugs are of two kinds:

1. Drugs which have recently been discovered

Here are a few examples: Streptomycin, Aureomycin, Chloromycetin, P.A.S., Isonicotinic Acid Hydrazide, not to mention the Penicillins, the Sulphas, and the Sulphones. Even before it comes on to the market the new medicine is boosted by the newspapers as a 'wonder drug', and we sit back feeling that at last a cure has been found for an illness which has for so long baffled mankind. Later, in the medical papers, we read less enthusiastic reports—of strains of bacteria which have developed a resistance to this medicine, of deaths caused by its injudicious use, of a temporary cure followed by a far more distressing condition, and we are led to think that the wonder drug of today may be the veiled assassin of tomorrow. This is in no way meant to belittle the value of these medicines which have saved many lives and much suffering; but it is a plea that we should be careful not to be carried away by extravagant claims, and that before we use these new and powerful medicines, we should be quite certain that we are not giving them for illnesses which can be cured by simpler, safer, and cheaper means; that we know the proper dosage, and possible side effects; and that we place more reliance on the reports in the medical journals than on the optimistic literature issued in such profusion by the manufacturers. My first introduction to Penicillin illustrates to what lengths the misuse of new medicines can be carried. I had only been back in this country for a few months after a furlough in England, during which I had had a post in a thousand-bedded County Council hospital. At that time Penicillin was being tried out. It was only allowed on the prescription of certain of the most senior consultants. I came back to India without ever having seen this 'wonder drug', and was posted in the Deccan to do furlough duty for one of our mission doctors who had a number of dispensaries under her care, which she visited fortnightly. In one of these very remote villages

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there was one particular patient about whom I was very worried, and was much relieved when her husband and ayurvedic practitioner agreed to take her about fifty miles to the government hospital. The diagnosis was acute appendicitis. I was less pleased when the husband appeared on the verandah in the middle of dinner to say that in spite of the advice he had had at the hospital he would not let her stay in, but that it would be all right, he had bought some Penicillin, and would I please come and show him how to use it. The one vial of Penicillin was on ice, in a new and most expensive thermos flask. As far as I could make out, this one vial had cost him about Rs 70: Rs 55 for the vial, Rs 13 for the flask, and Rs 2 for the ice.

2. Proprietary medicines

There are many well known medicines, issued by drug firms, each with its different name and different packing, which are substantially the same; and, in many cases, the same as a medicine which can be dispensed far more cheaply. Look at some of the expensive hypnotics. You will find that they nearly all combine some one or other of the following drugs: aspirin, phenacetin, caffeine, phenobarbitone, and some preparation of opium. I have found in practice that a whole or half a dover's powder tablet combined with an A.P.C. tablet is an excellent analgesic, and phenobarbitone with aspirin or A.P.C. an entirely efficient hypnotic. In my jungle hospital we have no need of elegant preparations to give the patient freedom from pain or a good night's sleep.

In my childhood, every time we went in a train, at intervals all along the railway line we saw large boards advertising Beecham's pills. The slogan was, 'Beecham's Pills worth a guinea a box'. As each box was sold for a shilling one might be thought to have secured a bargain, but after many years, when the secret formula was disclosed, it was found that the pills were made of aloes and soap only, and the manufacturing costs were for each box the fraction of one penny only. Mr Beecham (he was afterwards knighted) made a great deal of money and spent a good deal of it on good works, so all the shillings paid were not entirely wasted.

We have moved on a little from those days, because now in England secret remedies are forbidden by law, and the formula of the contents must be printed on each package. But even so there are many useless and unduly expensive proprietary medicines still sold in thousands to the gullible public, on the advice of gullible doctors. Here are some extracts from an address given by Sir Weldon Dalrymple-Champneys to the Nottingham branch of the British Medical Association, and published in the British Medical Journal of August 16th, 1952. The very large amount of money spent by the National Health Service on these proprietary medicines has been mentioned, and he says: 'I think that there is pretty general agreement that a substantial proportion of this expenditure is wasted because the remedies are either useless, inappropriately used, or unnecessarily expensive.' Again, 'Though valuable new drugs have been developed at great cost by some of the proprietary firms, other firms, tempted by the facilities for prescribing afforded by the National Health Service, have merely duplicated standard preparations under proprietary names, or have formulated medicines of doubtful therapeutic value at high prices.' Then he adds, 'It is worth noting that France has recently taken drastic action to curb the production of unnecessary or valueless proprietary medicines. Following

the introduction of legislation, manufacturers have been obliged to register their products, with the result that the 20,000 marketed preparations were reduced overnight to 8,000. These 8,000 were then classified therapeutically, and no new preparations were considered for entry on the register unless an expert committee decided that they represented a significant advance on those already available.'

To us, as Christians, these facts present a challenge to re-think our use of drugs, and to let no other consideration enter into our prescribing than the welfare of the particular patient for whom we have the responsibility.

But this is a paper on health education and not on prescribing; still, what we think about medicines will very largely colour our enthusiasm or otherwise on this subject. In this country we are faced with the ugly fact that the expectation of life is about half what it is in many other countries, and we are challenged to do something about it. Are we relying entirely on medicines for an improvement, or are we willing to look for underlying defects? It can be done, for even as recently as 1838 the expectation of life in Liverpool, one of our largest English cities, was only 25 years.

The Chota Nagpur villages are full of such defects. They are ringed by a large number of manure pits, the contents of which are semi-rotted and completely uncovered. Each family has at least one pit. At all times these form a perfect breeding place for flies, and in the rainy season, when they are half full of evil-smelling liquid, they must be a considerable help in increasing the mosquito population. In the rains, there are other muddy swamps too, in the alleys between the mud houses, and usually at all seasons in front of the houses there is an evil-smelling wet area which receives the waste water from the house. Latrines are non-existent, and the places used for this purpose in the fields are heavily infected with the ova of various kinds of worms.

The houses are built of mud, and do not have proper ventilation. They are shared with bullocks, buffaloes, goats, and hens, and also, one imagines, with many of the different varieties of biting parasites. The family, well or ill, usually sleep under one set of covers.

With living conditions such as these it is no wonder that the villager is not the healthy individual one might expect him to be, but an easy prey to such illnesses as tuberculosis, smallpox, cholera, leprosy, malaria, worm infestation of various kinds, and dysenteries, not to mention outsized sores and severe conjunctivitis, due to the neglect of simple treatments for originally trivial conditions.

By improved sanitation, and the provision of pure water and preventive inoculations, many of these illnesses have been completely wiped out. In the middle ages smallpox, plague, enteric and leprosy, and many other illnesses which we should now diagnose as dysentery, were major menaces; thousands died from these and various forms of sepsis. Cholera, which caused many deaths in England a hundred years ago, is now never found. Smallpox and leprosy are hardly ever seen, and then, usually in patients who have come from abroad.

You may say that village India cannot afford it. That is probably quite true, if, by sanitation, we mean those miles and miles of pipes and sewers connected with the sanitary system of a large town. But a great deal can be done on a far simpler scale. Even in the time of the writers of Deuteronomy the danger to health of the uncovered stool was recognized.

In the 13th verse of the 23rd chapter we find: 'Thou shalt have a place also without the camp, whither thou shalt go forth abroad; and thou shalt have a paddle among thy weapons; and it shall be when thou sittest down abroad, thou shalt dig therewith, and shall turn back and cover that which cometh from thee.'

Our difficulty in health teaching is not *ignorance* of the fundamental laws of health (these are taught in schools and at least lip service is paid to them), but to make people really understand that they are things which really *matter* in everyday life. These laws of health we teach as:

1. Eating clean food, drinking clean water (these involve proper disposal of stools).
2. Proper precautions against the spread of infectious illness.

Anything which shakes people up and makes them look at things from a slightly different angle is of help here, and this, I think, is one of the greatest uses of flannelgraph teaching. A few months ago we had a Health Education Exhibition, and amongst other things showed the flannelgraph of the smallpox story as given in the handbook of the Home-Spun cut outs. In this story the heroine becomes practically blind following an attack of smallpox. After the exhibition, one of our most thoughtful and experienced teachers came to me and said, she had never realized what misery such an attack of smallpox could bring to the family. In the future I expect she will be a far more enthusiastic advocate for vaccination.

Even the ideas of pretty well educated people have at their roots some deep-seated and often barbarous remnants of folk lore. These ideas are as unshakable as those of the lass in our teachers' training school, who had been told all about diamonds and how they were mined. In her examination she was asked to say something about the minerals found in a certain area. She mentioned where diamond mines were found, but then added in brackets, 'but of course we all know that a diamond is found in the head of a snake'. These ideas in the medical sphere often show themselves in crude medicines and treatments. A frog tied over an inflamed area (this, incidentally, causes widespread necrosis); the tip of a red hot grass-cutting sickle applied at points all over a goitre or an enlarged liver or spleen; the appalling mixtures of mud, oil, roots and juices used in the treatment of conjunctivitis.

There are some village remedies which are really useful, and I wish we could find out more about them, but one wonders at the survival of some of those I have mentioned, which, from the start, seemed doomed to failure. We might well ask ourselves what part Western medicine plays in village life; and if we face the question squarely I think the answer would be, 'very little'. When I first came to this country, we were asked for quinine, iodine and *lal pani**; now the demand is for much the same, with the addition of eye medicine and louse medicine (Gammexane powder). One of my colleagues asked one of our most thoughtful padres why it was that the Christian villagers did not use the hospital more. He said that he thought that it was because the day might come when we were not there, and that the people did not want to become dependent on our medicines, and lose touch with their own traditional ones. Cost, of course, may play

* Red water.

some part in this unwillingness. In some of our country districts the people have suffered from the insect which attacks the ripe grain. In one such village a better off farmer went to the town and bought a spray and some 'medicine' to spray his crops. The villagers rose in wrath, and petitioned that he should be prevented from using it as they said it would only drive the pest from his fields on to theirs. When they were asked why they did not all club together to buy 'medicine' they looked at the questioner with the utmost scorn, and said, 'How can people spend money on medicine, when they are starving?' In spite of all this some of us think that our Western knowledge has some contribution to make in the improvement of village health. Bishop Hollis, in a letter to the author, said, 'There is so much ill health in India, which can be prevented by relatively simple precautions, and this book (*Better Health*) should do much to help those who have even a not very advanced education both to keep themselves and their own families healthy and to guide their fellow-villagers, so that the burden of ill health and half health which lies so heavily on India may be lightened. When people say that Western medicine is too expensive for India, they are thinking of special drugs, X-ray plant, and elaborate equipment. The fullest use of the knowledge provided by scientific medicine to prevent illness would cost relatively little and would be of incalculable benefit to millions.'

The Bishop of Chota Nagpur, in a preface to the same book, brings in an aspect of the relation of religion to health, when he says: 'the greatest enemies to both health and holiness are ignorance and apathy'. This relationship between health and holiness can be understood more clearly if we look at some things in village life which lead to ill health, and trace their origins to the signs of selfishness, pride, laziness, greed and superstition.

A year or two back we tried to cultivate the ground round the hospital, as a communal patch. The hospital was pretty generous about labour, seed, and irrigation, and after a small amount had been deducted for ploughing and the buying of seeds, all the produce was to be divided amongst the staff. The project was not repeated for a second year, as one or two people made no attempt to control the ravages of their hens. So many village projects are ruined in this way, and even though the villager may have a garden, one cannot get him to grow the vegetables so necessary to health, because of his neighbour's goats. Public opinion is often powerless against greed and selfishness. If we have a dirty mosquito-breeding swamp in our garden, however clean our next door neighbour's house is, his family will probably also be bitten by *our* mosquitoes. For if we are lazy, selfish, or regardless of the ordinary cleanliness, there is no guarantee that we alone will suffer. That is obvious; but this spreading of illness and infection is going on all over India everyday, and we may well ask ourselves whether we, as doctors, are content to do nothing, and do we merely shrug our shoulders and say, 'It has always been like this and will always be like this'. Before we leave this question of sin and ill health, we might say that the relationship is not confined to village communities. We see the malnutrition produced by those who feel it degrading to eat anything but polished rice; the neurotic illnesses produced by the possessive selfish mother; the children who break down under the strain of study for which they have no capacity, but which satisfies the ambition or greed of their parents.

The rest of this paper will deal with the fumbling and often unsuccessful attempts we have made at health propaganda. A short personal history will make our background clearer. I came to this country in 1938, having qualified two years before. I took up medicine late in life. The whole thirteen years I have been out here I have been working in a very unambitious way, in very small hospitals or dispensaries, in Chota Nagpur and at one of our mission stations in the Deccan. Since 1947 I have been at my present eighteen-bedded village hospital, also school medical officer to a large girls' high school in Ranchi, and have done various other jobs as occasion arose, including a famine relief scheme. I have been very lucky in having nursing sisters working with me who were very keen on teaching, and together we have struggled with the some times seemingly baffling problem of how to get even the simplest health facts across to people in a way which would really carry conviction.

The problem which struck us first was how to give children the right idea of health and the proper place of medicine. Here I quote from an article published in the C.M.A.I. Journal of May 1948: 'I know most children learn about health in school, but one feels that, particularly in relation to food, it is in *theory* only. They know what they should eat, but how can they get it? Are we turning the children into medicine bibbers, and will they in later, and, we hope, more prosperous years, feel that their children cannot be healthy without quantities of tablets, injections, and synthetic vitamins?' Then followed a quotation from a letter written by a girl in the prematriculation class, to thank for a gift of Rs 20 for their school clinic. Here is part of the letter: 'Now-a-days all things are very expensive, so all girls cannot get enough food, and so they are very weak. But we are lucky. Many good friends send medicines for us for improving our health. We are very grateful for their useful gifts. When Dr Thomson examines and gets weak girls she tells our nurse to give medicines to those girls, according to their weakness. There are different times for taking medicine. After the morning prayer in the school those girls who have to take iron tonics go to the clinic and at the break the weak girls take marmite, and after the school they take milk, shark's oil and iron tonic.' My remark at the end of this letter was, 'Non-stop day, it seems to me'. Since then we have made a slight improvement in our feeding schemes, the basis of which is food rather than medicine and comprises school meals, and supplements of sprouting gram, and, as I know nothing better to replace it, shark liver oil. We also give vitamin tablets and I regret to say, in one school, milk powder, as the time taken in mixing powder into milk is more than that particular school can manage. For the last few years we have put nine or so of the most undernourished children into one of our country boarding hostels, and because of the very long leeway they have had to make up, have been giving them oil and vitamins, so here again, try as we will, this wretched question of medicine comes in. To quote from a composite letter written by these damsels, whose ages range from 8–12, in thanks for the help that let us keep them in the hostel, they write, 'We are lucky here we have a little sick room and they give us fish oil and pills everyday'. This letter was written last week, so here we are again educating in medicine consciousness, though we have tried to get away from it.

In 1949 we decided to try to find out, by means of essays written by the same class of high school girls, what the girls really thought about

illness as found in the villages. They were asked to imagine that they were going to live in a remote country village, far from all medical help, that they had Rs 20 to spend on medicines; they were told to say what illnesses they would expect to find, and what they would do about them. Out of a class of thirty girls, eight sent in essays. Their method of attack was chiefly by exhortation, though nearly every girl was prepared to start her health campaign by cutting down all the bushes in the village (an action not likely to endear her to the locals). We had a good list of diseases and textbook descriptions of malaria thrown in gratis, so to speak. This illness was to be treated by quinine or injections, but how these were to be obtained or how much they would cost was completely wrapped in mystery. The only other remedies mentioned were iodine and phenyl, and the only local remedy chiretta, though there was a mention in one essay of picking herbs. I rather sympathize with the girl, who got out of the difficulty of having to name medicines, by saying, 'I have only Rs 20 at that time and I could not think what I should do. But I would do something for them'. Another girl said, 'First I would give "deshi" medicines, and if the people became well I would not spend Rs 20 uselessly, I would spend it carefully. If the deshi medicines are useless, I would go to Ranchi to buy some medicines'. This girl who was the prize winner, was about the only one who really had practical ideas on cleanliness, such as fining people who washed their clothes in an unauthorized place, the village tank.

Therewith we got busy. Our Sister was allowed to teach these girls in lectures and, what was more important, in practical classes, and we drew up a scheme of medicines and treatments, which should be within the scope of an educated villager to provide and do.

We got a great deal of information as to some of the barbarities commonly practised in the villages, and treatments for sore eyes were legion. What seemed to be needed was, not to get them to do anything, but to prevent them from doing harm, and using a cure far worse than the original trouble. One treatment suggested for oedema of the eyelids was to rub the inside with phutus leaves, and put dog flies inside them. Other remedies were the juice of an onion alone or mixed with earth, mustard oil, ghee, ink, goat's milk, the water gooseberries have been boiled in. Some girls seemed to be genuinely interested in these lessons, and recognized their practical value. Others, as it was not an examination subject, paid scant attention. In all this teaching of school children it is not easy to create a desire to learn something which is not of present use, however likely it is to be useful in the future. We therefore decided to put all the knowledge we could think of which would be useful for, and within the means of, an educated villager into a book. This book, having been three years in manuscript, was published this summer by the S.P.C.K. Translations into Hindi and Marathi should be ready next summer.

We also used the Cartoon Jet series introduced by Dr Rutherford, and now so well known and so useful. But as our chief troubles had not been included in the series, with Dr Rutherford's permission we published two sets ourselves. One on sore eyes, and the other on roundworm.

Of our difficulties with sore eyes we have already spoken, but roundworm infestation has been one of our great troubles since the war. Ten years ago it was rare in Chota Nagpur. Now it is very common, particularly amongst children between the ages of two and seven years. I put

it down very largely to the scarcity of food, which makes children of this age very ready to cram anything which may be edible into their mouths. A good deal of this is picked off the ground which is heavily contaminated with faeces, thanks to the prevailing habit of using any spot for defaecation and for leaving the stool completely uncovered. Each female roundworm lays two lakhs of eggs, so that, unless there is some teaching given, as well as medicine, the condition may well be that of 'parasites lost, and parasites regained'. We have this particular set of Jet pictures hung up on our hospital verandah, and before medicine is given the child and his mother are taken to see the pictures and told the story. After a good deal of trial and error, we have found a handy way of exhibiting these Jets. First, we mount them on stiff paper, and then, having put split bamboo on each side of the top and bottom, hang these frames at eye level on the walls. The advantage of mounting the pictures in this way is that they can easily be taken in at night, and the series can be changed without the effort of taking out and putting nails into the wall. In our schools, too, each class has one of the series in their classroom. The pictures improve enormously if they are coloured, and the lesson does seem to be absorbed. The inspectress, on her recent visit to the school, found this—rather to her surprise. This year also each class acted a short play about the subject of the Jet in their classroom. But there is a drawback even to such a useful thing as the Jet series, and that is, its limited circulation and expense. It is not a type of thing, I think, which really appeals to the countryman. If schools are given them, they will use them, but I do not think that many school teachers, unless from abroad, would ever think of them as a thing they should buy.

The whole question of teaching by pictures needs to be very carefully thought out, and detail ruthlessly eliminated. The election taught us how very difficult it was for the non-literate really to recognize what a picture was supposed to represent. One of our candidates was represented by the picture of a tree; one would have said that it was quite unmistakable, but when one of his would be supporters was found coming away from the polling booth still clutching the card with a tree on it, he explained that he did not know it was a tree but thought it was an umbrella.

Flannelgraphs would seem to be most suitable for village teaching. The Christian Medical Association has published a series of home spun cut-outs, which are very handy both for building one's own health story, and also for using with the outlined story given in the booklet which accompanies them.

Just at the moment we are experimenting on a several pronged attack. We accept the premise that for villagers the recognition of pictures is not easy, and that the likelihood that much of any lesson will be remembered is very remote. So we leave a health handbill with the school master or any other educated villager. This handbill is printed on one side of the page in Hindi, and on the other in English. It is on the subject of the lesson, is written as simply as possible, and usually has a picture or a diagram, and leads to some practical action. Then, if we have been teaching in a school, we offer prizes on our next visit, for prowess in killing flies or mosquitoes, or for clean nails or heads.

On the principle of poking and pushing and getting a little teaching in wherever we can, before the summer holidays, we sold the handbills (the price of which ranges from a half to one-and-a-half annas) at a bargain

price of half an anna to our school girls and boys, and offered prizes on the children's return to school for the best account of the things which they had done in following out the teaching of the handbill during the holidays. Here are some of the results: (In our middle school at Itki the girls had been taught about the louse, and had been allowed to buy bags and matchboxes full of Gammexane.) 'Before the holidays the doctor and sister, in order to help us, gave us some of this powder cheap (two pice a bag). I was very glad to get it and applied it to my ox which had a lot of lice. The other cattle drove it away with their big horns. When I applied this powder it kept quite still and quiet. I applied more and after two or three days the lice and eggs were destroyed. Now the ox grazes happily and the others have begun to mix with it.' Another child says: 'To try it (the Gammexane) out I put it on the insects in the Urid. It had not been there long before the insects were dead. When I saw that I was very happy. Next day I put it on my hair and left it there for two or three days. On the fourth day I washed my hair and what did I see? All the dead lice were sticking to the cloth. I did this first on my own head, then I told others about it and their heads have become clean too.'

Here is an extract from one of the essays of a girl in our high school. It is about the washing out of sore eyes, and she starts off by quoting the directions given on the paper, then she says: 'Nobody had bad eyes, but I practised on a child and did as the paper said. Then I found a child with bad eyes, and laid her on a chatai and washed her eyes with salt and water as directed. I tried another child, but he was small and did not let me do it like that so I held him and cleaned his eyes. After a week their eyes gradually got better. Their parents were very pleased.'

Last term we had a new effort, a health exhibition. There was very little to show—the Jet series, some posters, and two flannelgraph stories. We had it on the verandah of Bishop's Lodge, and asked all the staff of the different schools in Ranchi, and students from our two training schools and the Roman Catholic theological seminary. The girls from our own training school had been shown the exhibits and told the stories, and they took over in a most efficient way. For them, at any rate, by repeating it over and over again to different groups, the lesson must have stuck for life. We also sold enormous quantities of Gammexane, which proved a winner every time.

So this is the end of the account of how we have, in a very small way, struggled to do something in the way of health education. Like so many other things in the life of a Christian, the results are not in our hands, but it has made us feel that the whole question of health education is a disturbing one. We are inclined to touch the fringe of the misery caused by malnutrition and poverty, by handing out vermifuges, antibiotics, fish oil, vitamins, and milk powder, but are utterly lukewarm in combating the underlying root causes of sin, ignorance, and apathy. We make little attempt to struggle with the problems of cultivation, to enforce the use of latrines, to deal with the selfishness of those who make the growing of other people's gardens impossible because of the depredations of their goats and hens. Gandhiji recognized this, and his teaching is carried on in a most remarkable way in the Ashram and Basic School at Wardha. We ourselves are unlikely to start an Ashram, but, if we are responsible for the health of any community, are we trying to keep them well, or are we quite

contented that we have done our duty, if we look after them when they are ill? Do we build up their resistance to disease by seeing that they have inoculations when necessary, and are vaccinated? We should be able to eliminate any severe attacks of typhoid fever, if we insist on annual inoculations. The vaccine obtained from the Haffkine Institute and used for a number at one time, only costs one anna for each inoculation, so expense cannot stand in the way. To guard in this way against typhoid fever is far less worrying and expensive than spending two rupees for each capsule.

Finally, do we try to enlist the help of the lay people amongst whom we work? In this connexion I will quote from a book by Phyllis Garlick, 'Man's search for health': 'Is not the concern for health something which the Christian church as a whole can share through a corporate recognition of responsibility? Cannot a concerted attack be launched against the enemies of health, physical and spiritual, initiated perhaps by a doctor or nurse but carried out by the rank and file of the church? Can the doctor, teacher, pastor be drawn together to bring their several skills to the task of making men whole? May not the hospital come to be looked on as the last line of defence in the battle of health, rather than as the centre to which sick people come?

'Here would seem to be the new adventure to which God is calling us. It is along these new roads of medical service that missionaries are beginning to explore.'

What are we doing?

SURGERY OF PORTAL CIRRHOSIS*

D. S. C. DEVADHAR

IN SELECTING a subject that will combine both interest and instruction to an audience whose interest varies from the general to the specialized, I have been mainly influenced by the frequency of occurrence, the inadequacy of prevalent therapy, and some startling recent advances in the surgery of portal cirrhosis.

I am fully aware of the scope, and somewhat discouraging limitations of operative interest, that working conditions impose on most of us. My excursion into the subject will therefore be directed from a view point of a general surgeon situated in a small mission hospital, of which our host institution may be taken as a typical example.

Fagge in 1880 was the first to direct attention to the possibility of relief, by establishing an artificial collateral circulation in portal cirrhosis. Talma in 1887 was the first to put this idea into practice by performing an omentopexy, and Lanz of the Netherlands by creating artificial adhesions between the visceral and parietal peritoneum. After this first spurt of surgical interest in portal cirrhosis, attention became channelled into three main directions, and much ingenuity of thought and procedure has been expended to add to the hitherto well-meant but unsuccessful efforts of the physician.

* Read at the Regional Conference of the C.M.A. held at Wai, Satara District Bombay State.

Surgical attention may therefore be divided into three main categories:

1. Procedures to establish collateral circulation.
2. Procedures for relief of ascites.
3. Procedures to diminish portal hypertension.

1. Collateral circulation is an expected event in the natural history of the disease. Venous channels at various sites, such as the lower end of the oesophagus, lower end of the rectum, paraumblical veins and retroperitoneal veins, dilate in an attempt for the blood to bypass the liver.

To aid this we can attempt to establish a communication between the portal and systemic circulations at sites afforded by anatomic possibilities. These may be grouped as two types:

(i) Omentopexies.
(ii) Visceropexies.

(i) **Omentopexy** may be intraperitoneal, intramural, or subcutaneous, depending on whether the omentum is made to adhere to the peritoneum, rectus sheath or subcutaneous tissue. Of these the omentopexy described by Talma is the most frequently done. Others of passing interest are (a) The omentum may be placed between the diaphragm and the liver, the diaphragmatic peritoneum scarified with gauze so that the omentum gets adherent to it. (b) The parietal peritoneum over the spleen may be used. Talma's omentopexy, a once popular procedure, has since been given up in most modern clinics in view of the discouraging results. But, being the most practical of the lot, I had first intended to give a detailed account of it. Doctor Cook's paper (reported elsewhere) devoted entirely to this operation now obviates the necessity of my doing so.

(ii) **Visceropexies.** The principle is the same as the omentopexies, but here the parietal and visceral peritoneum overlying the portal organs like the liver or spleen are made to adhere to each other. The testicle with its accompanying pampiniform plexus may be brought intraperitoneally and the omentum wrapped round it.

We come next to the group of surgical procedures whose main objective is to provide an outlet for drainage of ascitic fluid. Of these the simplest is the insertion of glass buttons between the peritoneum and the subcutaneous tissue. The peritoneum is opened through a small midline incision and the button so placed that one end projects into the peritoneal cavity and the other into the subcutaneous tissue. The tissues closed round the body of the button. Instead of buttons, glass tubes, catheters, silk threads or polyethelene tubing may be used. The infection, the fibrosis, and very temporary nature of relief, account for the scant degree of clinical success. Other procedures which attest more to the ingenuity of their authors than to any continued relief to the patients are:

(i) The saphenous vein is mobilized and its cut open end carried under the inguinal region and made to open into the peritoneal cavity. The valve prevents any reflux.

(ii) The cut-distal end of the ureter is anastomosed with the peritoneal cavity.

(iii) A vesico-peritoneal fistula is established.

We come next to the group of procedures whose main objective is to diminish portal hypertension. This may be done by two methods:

(i) Cutting of part of the portal bed, by

(a) Ligating some of the main tributaries, for example, the inferior mesentric vein or superior rectal vein.

(b) A large part of the portal load may be eliminated by a splenectomy.

(ii) Short circuiting a part of the portal load into systemic drainage.

(a) A lieno-renal veins anastomosis and removing the spleen and left kidney. The cut ends of the veins are anastomosed by either the vitallium tube or by direct end-to-end suture with fine arterial silk. An end-to-side anastomosis may also be done.

(b) The porto-caval anastomosis may be side to side or the cut proximal end of the portal vein can be anastomosed to the side of the inferior vena cava. The suture or non-suture method may be used. With the resulting fall of portal pressure clinical improvement both subjective and objective usually follows.

Though based on sound theory and supported by an illuminating series of cases, the highly specialized technique, the high table mortality, and prolonged and involved operation, place these procedures outside our practical scope.

We next come to another procedure which is my main objective to bring to your close attention. A procedure which has been suggested but recently, and carried out in a small series of cases. I have been particularly struck by this new advance in that it provides for most of us a practical possibility of affording relief for a large number of patients for whom we can do so little at present. I will therefore go into the details of this operation, namely, hepatic and splenic arterial ligation for portal cirrhosis.

Experimental and clinical studies have been carried out by Berman and his colleagues at the Indianapolis General Hospital. To give an account of their work would be time consuming. I will dilate only on features of practical interest. The first question presenting to any one is: 'How does the operation help?'

The rationale of the operation as worked out by the authors involves a lengthy and complicated explanation of the dynamics of portal blood flow whose understanding would be certainly incompatible with the heavy lunch we have had. I will attempt to give a simplified essential concept of the series of changes involved before and after operation.

In the normal liver the hepatic and portal blood flow join at an acute angle to flow into a common sinusoid at a common pressure. Normal portal pressure is about 10 mm. hg. and normal hepatic arterial pressure is about 120 mm. hg.

Being placed in a soft elastic sponge-like bed of liver tissue, this difference of pressure is very readily equalized and hepatic pressure rapidly falls to the portal level before it joins the sinusoid.

In cirrhosis three things happen. (1) The liver loses its elasticity and give. (2) The normal flow from portal radicles to hepatic vein is distorted by masses of fibrous tissue and the sinusoids displaced. (3) In order to supply blood to liver cells new pathways develop between the portal and hepatic veins and the hepatic artery and portal veins. A number of direct communications are therefore established between hepatic artery and portal vein.

With the breaking up of the sinusoids and non-elastic bed, the hepatic artery pressure remains high throughout the liver substance, and through the direct new communication readily transfers this pressure to the portal vein, thus raising the portal pressure. Hepatic nutrition at this stage depends on the portal blood and new hepatic collaterals that are being formed. The increase in portal pressure affects the liver in two ways—a more rapid flow through the portal system directly into the hepatic veins gives less time for oxygen absorption, and the large portal veins compress and prevent blood-flow through the new thin walled arterial capillaries. It follows therefore that by cutting off the arterial flow the back pressure which is transferred to the portal system will be lowered, and with a slower blood flow at a lower pressure O_2 is absorbed better and blood flows through the new capillaries to nourish the liver. The ligation of the splenic artery effectively cuts off a part of the portal load adding further to the fall in portal pressure.

The changes that follow ligation therefore are:

(1) Fall in portal pressure leads to decreased effects of portal stasis, such as ascites.
(2) Better absorption of O_2 and nutrition from portal bed.
(3) Increased formation of hepatic collaterals.
(4) Regeneration of hepatic cells.

Selection of the Patient

The clinical picture in a typical case seldom gives difficulty in diagnosis, and recourse may be had to blood picture, liver function tests or needle liver biopsy in cases of doubt. A diagnosis of portal multilobular cirrhosis is essential; other forms must be excluded. The ideal patient is the early case; the progress of the disease, not the duration; the functional state of the liver, and not its size; the general condition, and not the age, are what should mainly guide selection. Certain contraindications may however be remembered.

(1) History of repeated attacks of jaundice.
(2) Persistent or progressive jaundice.
(3) Cardiac or renal decompensation.
(4) Repeated attacks of haemetemesis.
(5) Marked insomnia or delirium.
(6) Hypertension.
(7) Inter-current infection or tuberculosis.
(8) A highly turbid fluid.
(9) Marked suppression of liver function.

Pre-operative treatment

Hospital rest and care for 8–10 days prior to operation is essential. Forced carbohydrate feeds or I.V. glucose, a high protein intake or casein

by vein, low fat and salt poor menus are essentials of pre-operative diet. Supportive therapy includes vitamins B, C, and K daily, intrahepatol or liver extracts, and small blood transfusions in some cases. Pre-medication includes penicillin 5 lacs and streptomycin 1 gm. daily about 5 days prior to the operation and avoidance of morphia and barbiturates. Mercurial diuretics may be required in some cases and a pre-operative tapping adds to the comfort of the patient.

Operative technique

Under spinal if B.P. permits, or intratracheal ether, the abdomen is opened through a midline or left paramedian incision and the fluid drained. The liver inspected and diagnosis confirmed. A finger inserted into the foramen of Winslow and the position of the hepatic artery ascertained. A transverse incision is made on the gastrohepatic ligament over the main trunk of the artery which is then exposed by blunt dissection. The origin identified and doubly ligated as near the origin as possible. The origin of the splenic artery which arises in common with the hepatic and juts towards the right before curving to the left below the upper border of the pancreas is exposed and ligated half-an-inch from its origin.

Both these vessels or the splenic alone may be ligated by entering the lesser sac and exposing the coeliac axis by retracting the stomach to the right.

Difficulties

Anatomically though easy of access, actual exposure in a cirrhotic is a tedious and delicate dissection of numerous small vessels embedded in dense adhesions and a network of sympathetic fibres. A small working field covered with a capillary ooze sometimes makes isolation and even the identification of the main vessels difficult.

Anomalies of the vessels, such as a hepatic arising from the aorta, superior mesentric or splenic, may be remembered. An accessory hepatic may arise from the left gastric. The splenic or superior mesentric arising from the hepatic may be encountered.

In cases of difficulty the lesser sac is opened, the posterior parietal peritoneum incised, and blunt dissection at the upper border of the pancreas exposes the splenic, which can be traced up to the hepatic. The numerous pancreatic vessels, and the fact that the artery lies well behind the pancreas, may make even this difficult. Exposure itself may take two or three hours, and I have seen an eminent surgeon give up after a search of well over two hours. It may be said, however, to the credit of the operation, that whatever the stage of the operation, where such a special difficulty is encountered or the patient's condition does not permit, the abdomen may be closed, with no harm to the patient or discredit to the operator.

Post-operative care

Routine post-operative measures as for any laparotomy are observed and all the pre-operative measures continued for 8–10 days. Oral feeds may be started the same evening and gradually increased.

Complications

(1) Jaundice may follow in some cases, but is usually transient. A progressive jaundice may, however, be fatal in subjects not carefully selected.

(2) Bleeding tendency may be accentuated if sufficient vitamin K has not been given. (3) A hepatorenal crisis, heralded by drowsiness, vomiting, high temperature, jaundice, and delirium; and accompanied by a low urinary output, azotalemia, anaemia, leucocytosis, and depressed liver function, is of very grave prognositic import. Circumspect attention to fluid, electrolyte and protein balance may help to tide over milder cases.

Results

The series of cases are few, but the results so closely studied are so encouraging that even these short term studies lend authenticity to both the rationale and usefulness of this operation.

In well selected cases mortality has been low. Clinical improvement is shown by a fall of body weight, due to disappearance of oedema, followed by a rapid gain in weight, relief of ascites, decrease in haemorrhagic attacks, a raised liver function, and restoration of blood picture to normal. Life is prolonged in most cases, and in successful cases both the patient and the liver make a heroic attempt at reversal to normal.

Six cases have come under my personal observation, with no mortality. All of them showed marked relief of ascites and improvement in general condition. No long term follow-up has been possible, but immediate clinical results have been most gratifying; subjective, objective, and with laboratory studies.

In conclusion, ladies and gentlemen, may I present for your consideration an operation which promises relief for a very common clinical condition, in whose natural evolution we are at present helpless lookers-on? An operation distinguished by the soundness of its physiological concept and ease of execution. An operation whose promise of clinical success excels that of any known so far, and yet, in practicability, is well within our reach.

The safety of the procedure and the otherwise inevitable fate of the patient well justify an independent attempt to stop the remorseless progress to a fatal termination.

If I have, ladies and gentlemen, succeeded in bringing within the practical purview of your surgical interest what I consider to be a real advance in the treatment of portal cirrhosis, I can well acquit myself of any guilt of having wasted your time.

Thank you!

OMENTOPEXY AS AN AID IN TREATING CASES OF CIRRHOSIS WITH ASCITES*

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Quite frequently to our hospitals come patients with the protuberant abdomen, edematous legs, and rather sunken facies, which spell late cirrhosis; even more pathetic than the adults are the children. They come, expecting a miracle, and we have none. Yet, there are things which even in small hospitals we can do, which, in our experience, at least offer considerable relief. Theoretically, it might be relatively easy to provide relief, since the basic offender is portal venous hypertension. Scarring and contracture of the liver from a variety of causes so compresses the intra-hepatic portal veins that their pressure rises to the point where portal system capillaries just cannot absorb their quota of fluid, and hence ascites. Eventually, pressure of the ascites on the inferior vena cava and iliac veins plus the induced hypo-proteinemia gives them edema of the legs. The causes of the cirrhosis are various. We have found syphilis to be present in nearly 25 per cent of our cases. Malaria has been present on admission in six per cent, and undoubtedly has been chronically present and more or less burnt out in a good many more. Chronic amoebic hepatitis, I am sure, is a factor in a great many cases; and, if not present in the beginning, at least by the time the patient reaches us, B-complex and protein deficiencies certainly will be playing their role. At least in this part of the country alcoholism is not an important factor. But, whether there are additional toxins having their effect is a question. In Boston, where cirrhosis is usually associated with chronic alcoholism, there was a suspicion that copper from the stills was a factor at least responsible partially. Here, most people eat from brass vessels, and this is a factor some enterprising biochemists might investigate.

Of course, we should try to treat the underlying cause or causes, and with that in mind we always give relatively large doses of vitamins both by mouth and in the form of liver extract, with vitamins by injections. We are fortunate in having available from America a free gift of Litrison which contains a considerable amount of cholin and methionine. In addition, we have a free gift of multi-purpose food, and we add war-surplus marmite and milk. Syphilis, if present, is generally treated with Penicillin (at least 40 lakhs over ten days) for we hesitate to use arsenic when the liver is already so damaged. If there is any suspicion of amoebic infection or malaria, we use Nivaquine (total dosage up to 15 tablets over ten days) plus Enterovioform or some other agents which remove amoebae from the intestinal lumen. For general treatment in preparation for omentopexy, we use diuretics, plus injections of Esidrone in cases where there is no kidney damage. In addition we use a moderate amount of magnesium sulphate to prevent undue addition of fluid to the body, and, of course, we keep the patient on a salt free diet as long as there is evidence of edema.

So far, what we have outlined is standard treatment everywhere, and occasionally productive of good results. Thus, until the time we began to

* Read at the Regional Conference of the C.M.A., held at Wai, Satara District, Bombay State.

do omentopexy, out of a total of 40 cases (1950–51) we found the following immediate results: Good 23 per cent, Fair 32 per cent, Poor 40 per cent, and Died 5 per cent. In most cases these patients have not returned, but in the few cases we have had the chance to follow, the good results have been only partially sustained, and fair and poor results have rapidly gone on to death.

Various methods of attacking the underlying physiological difficulties have been thought of since just before 1900. The name of Talma is usually associated with the early methods of omentopexy. Others such as Dr W. J. Mayo had made more radical attempts including splenectomy and ligation of the inferior mesentric artery. Others have made all sorts of fancy shunt connections between the portal and inferior vena caval systems. These more radical operations have so frequently brought death even in the hands of expert surgeons in well-equipped hospitals that they are rather unpopular with patients, most of whom prefer to live for a little while even with their disabilities, than to die on the table. Omentopexy has been rather disappointing because in the early days our knowledge of nutrition was inadequate, and therefore little was done to improve the condition of the liver itself. Recently the role of methionine, choline and B-complex vitamins has been clarified, and treatment based on this information alone has brought considerable encouragement. But the fact remains that, without some way of improving the anatomical defect caused by liver scarring, the problem of ascites is not appreciably improved. Nature's own attempts to improve this by forming haemorrhoidal and oesophageal varices are, at least, uncomfortable and, at most, fatal to the patient. We have therefore been trying in this year a simple form of omentopexy which, in our experience of 14 cases including three who were so far gone as to be jaundiced, has given the following immediate results: Good 57 per cent, Fair 36 per cent, Died 7 per cent (one patient). In the six patients whom we have been able to follow longer than one month, results have continued to be good in five and fair in one. In particular, I should like to report a case of a three-year-old boy with the history of five or six months' abdominal swelling, with some splenic enlargement. His parents were well-to-do people and had spent large amounts for his treatment in many other places, with the result that he came to us with considerable albumin in the urine and marked swelling of abdomen and generalized anasarca. He stayed with us eight months, receiving the general treatment outlined above, and improved to the extent that he had only ascites, but he had to be tapped regularly every month and 2,000 to 2,500 c.c. of fluid withdrawn. They finally consented to omentopexy, which was done on 16–2–1952. Since that time he has never had to be tapped. He was seen on the 2nd of October and found to be much improved. His abdomen was only slightly protuberant. His height had increased, and he had good strength, and the omentopexy, barely palpable, although he did have a good network of veins extending up therefrom. We have another case here now for demonstration, who was treated for nearly two months for cirrhosis, with both syphilitic and chronic malarial background. When he was practically at death's door omentopexy was done. He is now lively and at least strong enough to climb the stairs, as you can see for yourselves. He still has so much liver deficiency that haemoglobin formation is impaired, but even in this there is actual improvement. Improvements in technic we have

learned by experience. In our first cases, under local anaesthesia we made a mid-line incision above, midway between the umbilicus and xyphoid, approximately one inch long at skin level and half-an-inch long through the fascia and peritoneum. We undermined the subcutaneous tissue, made edematous with procaine, and then omentum was pulled through the small opening straight out into the subcutaneous tissue. The omentum was eroded with dry gauze and then skin closed over it. We have had one patient who returned with an epigastric hernia resulting from enlargement of this opening. Except for the hernia, he was in good condition, and reported to us happily that he was able to sow and reap a good crop, but the hernia was bothersome. This we repaired by placing a number of interrupted cotton sutures from one side of the fascial incision to the other through the protruding omentum, and, because of this experience, have subsequently done all of our omentopexies with this additional safeguard against herniation. We have been doing some through a right paramedian rather than a median incision, thus opening the rectus sheath as an additional pathway for fluid absorption. The immediate results are spectacular, for the free fluid in the peritoneal cavity sweeps through the opening in the peritoneal and fascial barrier and is absorbed by the subcutaneous tissue. Thus the proteins formerly lost by tapping are now retained by the body. As time goes on there is an increasing attachment of the omental veins. Some of those in the patient whose hernia we repaired were of lead-pencil size, and in this way the effective detour around the liver is formed.

While we do not claim that omentopexy completely cures the patient we can point out that, in cases where the liver is not so severely damaged that continued life is impossible, we can prevent the necessity for continued tapping and the distress caused by a permanently much enlarged abdomen, and allow salvage of the nutritional ailment which previously went to waste. Anyone who is equipped for a tiny incision into the abdominal cavity can do this operation, which offers the patient real relief. The incidental advantage of this method is that those cases of ascites due to tuberculosis or malignancy can be identified at this time and appropriate therapy and prognosis made possible by accurate diagnosis. That omentopexy may be combined with more radical procedures, I do not doubt, and that its usefulness might be improved thereby. But in cases where more radical procedures are impossible for lack of equipment or talent, omentopexy provides a simple aid.

INJURIES AROUND THE ELBOW JOINT*

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I AM conscious of the fact that I am standing in front of an enlightened audience and the subject I have chosen for today cannot be new to you. So I am certain some of you will be able to supplement from your experience and I would be thankful for any observations made.

For our present consideration, injuries of the elbow joint may be classified as: (1) Injuries common in children, and (2) Injuries common in adults.

Before considering the injuries in children, a knowledge of the development of the epiphysis as to the age of appearance, and time of fusion is important in correctly interpreting the X-ray findings.

The elbow is a ginglymus type of diarthrodial joint. The capitellum lies in front of the humeral shaft and articulates with the shallow depression of the radial head. The largest centre of ossification for the distal end of the humerus is that for the capitellum and lateral half of the trochlea, which appears during the first or second year. The trochlea is the pulley shaped articular surface lying on a plane with the shaft and articulating with the sigmoid fossa of the ulna. The centre for the medial half of the trochlea appears at about the 11th year. The centre for the lateral epicondyle appears about the 12th year. At about the 14th year, these centres unite to form a single epiphysis which joins the shaft between the 16th and 17th years. The centre for the medial epicondyle appears about the 5th year and is separated from the composite epiphysis by a distal extension of the diaphysis. It does not join the shaft until about the eighteenth year and the epiphyseal line is extra capsular. The epiphyseal line of the composite epicondyle is intracapsular medially, and extracapsular laterally.

The flexor pronator group of muscles arises from the anterior aspect of medial epicondyle. The common extensor group of muscles arises from the posterior aspect of the lateral epicondyle.

The normal range of movement at the elbow is from 30°–180°. In complete flexion, the tip of the index finger can be placed on the shoulder at the acromio clavicular joint. The epicondyles and the tip of the olecranon are in a straight transverse line when the elbow is extended, and the olecranon moves downward in flexion, producing a triangle.

Fractures about the elbow constitute one of the most frequent sites of involvement in children.

Injuries about the elbow in children may produce one of the following lesions:

1. Traumatic synovitis
2. Supracondylar fracture
3. Fracture of the lateral condyle
4. Fracture of the medial epicondyle
5. Fracture of the neck of the radius
6. 'The Pulled Elbow'.

* Presented at the joint Tamil/Telugu Conference of the C.M.A. held at the U.M.T. Sanatorium, Arogyavaram.

In adults the following types of lesion are met with:

1. T-shaped fracture of the humerus
2. Fracture of the olecranon
3. Fracture of the capitellum
4. Fracture of the head of the radius
5. Dislocation of the elbow
6. Tennis elbow.

1. Traumatic Synovitis

Minor strains and confusions often cause traumatic synovitis of the elbow joint, particularly in children. Radiographs show that there is no bone injury, but the joint hollows are filled, the joint is tender, movements are painful and there is muscle spasm. The limb should be rested in a sling, or cuff and collar, for 2 weeks. Movement is then allowed to recover at its own rate. If the flexion is gradually increasing, persist with active movements. But if you find the range of flexion is getting reduced progressively, then the elbow is still irritable, and so rest for a few days is indicated. The parents and relatives are warned against any type of passive stretching.

In this connection, I may quote the illustrative cases of Watson Jones. 'A brilliant violinist came to Europe to perfect her technique; she dislocated her elbow and after 14 days swung from a beam three times daily to force the joint straight. One year later she had no more than 40° of movement and, far from having perfected her technique, she may never play the violin again.'

'A sea captain sustained a crack in the head of the radius and subsequently paraded the deck every morning for one hour, carrying a typewriter with the object of straightening the joint. As the result of his mis-directed zeal, extension of the elbow is permanently limited.'

'A boy sustained a simple traumatic synovitis of the elbow. Twice a day for nearly six months the joint was massaged and passively stretched until the patient was reduced to tears. The end result was marked limitation of the range of extension.'

So, at no stage in the treatment of elbow injuries should passive movements be attempted.

2. Supracondylar Fracture. This is the most frequent type in children.

Two varieties of this should be recognized:

(i) with backward displacement—the common type.
(ii) with forward displacement—very rare.

The mechanism of supracondylar fracture is a backward force, such as a fall on the hand with the elbow flexed or a hypertension force of the elbow, which displaces the distal fragment backward and is held in position by the triceps. The distal end of the proximal fragment may project into the cubital space, producing pressure on nerves and vessels. The fracture line is usually transverse and extends backward and upward. The elbow is swollen and movements limited. If the fragments are displaced, the region over the posterior surface of the humerus is concave and the points of the olecranon and the epicondyles are on their normal relationship.

Treatment

In cases with no displacement or only a little displacement, immobilization in flexion with a light plaster cast from the upper arm to the metacarpophlangeal joint is advisable. The cast is removed in 3 weeks and the arm is carried in a sling for an additional week or two. Active movements of the elbow are encouraged.

In cases with displacement, manual reduction is accomplished by placing the thumb over the lower fragment posteriorly and pushing forward as the shaft is forced posteriorly with the other fingers while flexion and extension are carried out. The extremity is then immobilized in flexion.

In fracture with marked displacement of the distal fragment, an examination of the hand is important to determine whether there is any nerve damage. With proper management of the fracture, this condition, if present, usually disappears in four to ten weeks. If there is medial or lateral displacement, it is corrected, and with the thumbs posteriorly over the distal fragment, while traction is being applied, it is pushed into position, as the elbow is flexed, as described above. A well padded plaster cast is put to allow for subsequent swelling. The radial artery should be palpated to see that it is not obstructed. It is better that the patient is hospitalized and frequent check up made on pain, colour, swelling, sensory changes, numbness of the fingers, and movements. If there are any disturbances in circulation, such as pain, swelling cyanosis, disturbance of sensation with loss of radial pulse and an impending Volkmann's ischaemic contracture, the cast should be removed. Reduction of a displaced fracture and elevation of the limb may relieve the pressure. Sometimes, it may be necessary to incise the fascia to relieve the tension. The one most reliable symptom of Volkmann's ischaemia is the presence of spontaneous pain over the flexor muscles. Even delicate manipulations of the fingers produce severe pain over the flexors.

In cases in which repeated manipulations fail, a more effective pull on the lower fragment may be obtained by passing a Kirschner wire transversely through the olecranon process, and, by strong traction on the flexed elbow, the fracture is reduced, and the elbow put in Plaster of Paris cast in flexion incorporating the wire. Later on the wire may be removed and in about three weeks the cast is taken off and the cuff and collar substituted and gradual active movements are started.

Supracondylar fracture with forward displacement

This is comparatively rare. The line of fracture is the same as for the backward variety. The fracture is usually green stick, with the lower fragment tilted forwards.

Reduction is accomplished by extending the elbow to the same extent as on the other side and seeing that the same degree of carrying angle as on that side is maintained.

Fixation is done by Plaster of Paris gutter splint for 10 days to 2 weeks, after which gradual active movements are started.

Course and complications of supracondylar fracture

It has been fairly well established that good function is the usual sequence of fractured elbows in children even though the perfect anatomical reduction might not have been accomplished.

The complications that may set in are:

(i) Volkmann's ischaemic contracture—as mentioned before.

(ii) Mysositis ossificans. The cause of this is obscure. Forcible passive movements, massage, etc., seem to favour this condition. The range of movement should be gradually increased by patient active movements.

(iii) Cubitus varus and valgus deformities and latent ulnar nerve symptoms resulting from improper reduction and growth disturbances are not uncommon.

(iv) Loss of movement is due to poor reduction and bad management.

3. Fracture of the Lateral Condyle

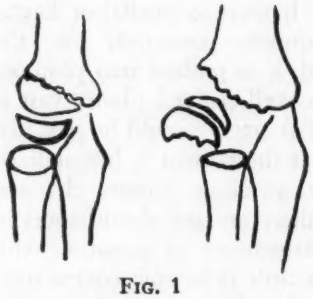

FIG. 1

This type of fracture is caused by a force transmitted up the radius as a fall on the hand by an abduction force or a direct blow from the condyle. A piece of metaphysis is usually separated with the capitellar epiphysis. The fracture begins on the articular surface medial to the capitellum and passes upward and outward and may include the lateral epicondyle, as well as part of the trochlea. The displaced fragment is rotated by the common extensor tendon, so that the articular surface faces upwards and medially and may be rotated through an arc of 180°.

There is localized swelling in the region of the condyle. The carrying angle is increased and there is hypermobility and a loss of the relationship of the lateral epicondyle to the medial epicondyle and the tip of the olecranon.

In cases with little or no displacement, plaster immobilization in flexion and supination with a sling for three weeks, followed by a sling and active movements, is sufficient.

When the fragment is displaced and rotated, traction with supination and pronation may be tried, attempting to manipulate the fragment into position and then flexing the elbow. While this may be satisfactory in milder cases of separation, it usually fails in the well displaced case, and open reduction is necessary.

A longitudinal incision is made over the bony lump, which can be felt when the child is under the anaesthetic. The raw bony surface of the fragment quickly comes into view and by pressure of thumb it can be rotated in 90° and then back 90°, when it falls naturally into position. Once replaced, it shows no tendency to displace again; hence internal fixation is not necessary. Further treatment is as mentioned before—immobilization in flexion for three weeks, followed by active movements.

Perfect recovery follows, if the fracture has been reduced. If left unreduced, the elbow regains three-fourths of its normal range, but cubitus valgus gradually develops. This, apart from being unsightly, gives rise to no disability for many years; then about middle life, the patient gets a progressive irritative lesion of the ulnar nerve, which is tightly stretched across the inner side of the joint.

4. Fracture of the Medial Epicondyle

Fractures involving the medial epicondyle usually follow a force which causes an abduction of the elbow, producing pressure of the epicondyle through the flexor group of muscles on the internal lateral ligament or by a direct force to the epicondyle itself. There is pain localized over the epicondylar region, with swelling. There is weakness of pronation, and flexion of the hand produces pain. If the pain is not too great and the displacement is marked, one may be able to palpate the fragment.

If there is little or no displacement, immobilization in flexion and pronation for three weeks in a cast and sling is advisable, followed by active movements and a sling for one week.

Flexion and pronation may be tried, but this usually will not accomplish reduction in cases in which the epicondyle is displaced. Open reduction should be done, and the fragment held in position with a suture. Non-union practically always follows this type of case and reduction is not accomplished. Younger children with non-union and separation are prone to local growth disturbance and, subsequently, an ulnar neuritis develops because of a disturbance of the bed of the ulnar nerve.

If the force is severe enough, the elbow is dislocated and the epicondyle is widely separated. The epicondyle may be in good position following reduction of the dislocation.

The ulnar nerve is sometimes pulled into the joint with the epicondyle and the flexor group of muscles, producing partial or complete paralysis. These cases are treated by removing the fragment, nerve, and soft tissues by operations and fixing or removing the fragment. In older children, in whom the growth is nearly complete and the fragment is small or distorted, it can be removed and the fibrous muscular attachment sutured over the defect. This gives a more prompt recovery and has no cosmetic disadvantage. In younger individuals the epicondyle is sutured in position so as not to interfere with the growth of the epicondylar region. In cases of ulnar nerve injury transposing the nerve may be done to prevent further damage and aid a more rapid recovery.

Fracture of the Radial Head and Neck

These fractures usually result from a fall on the hand; the force being transmitted by the forearm. In cases of fracture of the head, even when some of the fragments are separated, and in cases where the neck is fractured with no appreciable separation, a satisfactory result with good function will follow a short period of immobilization and early active movements.

When the neck is fractured and the head displaced from the articulation a closed manipulation will usually fail; open reduction through a posterior incision should be done and the head placed in its normal position. Internal fixation is not necessary.

The forearm is then immobilized for four weeks in supination, followed by active movements and the use of a sling for two weeks longer.

These fractures include the epiphysis and the epiphyseal cartilage plate. If the head is removed, growth is arrested and a valgus deformity of the elbow will result, with a radial deviation of the hand and a prominence of the distal end of the ulna. There may be some loss of rotatory motion as a result of the disturbance of the distal radio-ulnar joint.

In case of compound fracture or irreparable damage of the head and the growth line, an arrest of the growth of the distal end of the ulna should be performed at a suitable time following the injury, in order to prevent a future subluxation of the distal radio-ulnar joint.

5. Pulled Elbow

The condition likely to be confused with the fracture neck of the radius is the so-called 'Pulled Elbow'. This occurs at a slightly earlier age period and is due to traction on the forearm, so it is diagnosable from the history.

The child has a painful elbow, which it will not move—flexion and extension are not free and rotation is not permitted. If the forearm is extended, supinated, and flexed in the supine position, the condition is relieved and the child within a few minutes is seen to be using the arm normally again.

The condition is probably a downward subluxation of the head of the radius, which gets strangulated by the orbicular ligament and is unable to move.

1. Injuries which are common in adults

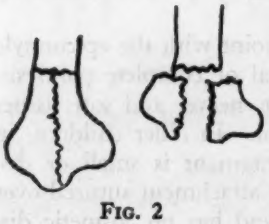

FIG. 2

T-fracture of the lower end of the humerus. The fracture lines run in the form of a T or Y. All the three fragments may be separate, or the condyle may be impacted into the shaft, or the split between the condyles may be incomplete.

The elbow is greatly swollen and misshapen —No movements are permitted by the patient and no bony points can be identified. Crepitus may be heard in the course of handling.

For anatomical reduction, extensive open operation and elaborate internal fixation are required. The end result is usually poor. Better results are obtained with closed reduction.

Under anaesthesia, a Kirschner wire is inserted transversely through the olecranon process for strong traction to the flexed elbow. The condyles are laterally compressed, preferably by winding around an Esmarch's bandage. Bandage and wire are then removed and a Plaster of Paris strip is moulded to the back of the arm and forearm, with the elbow held almost 30° above right angle.

Fixation is done by Plaster of Paris gutter splint which is removed at the end of a week or ten days and a cuff and collar given. Voluntary movements are encouraged. The patient is warned not to expect any movement at the elbow, unless he makes an effort to regain it.

2. Fracture of the Olecranon

There are two varieties of this fracture: (1) The direct and (ii) The indirect.

(i) The **direct fracture** is caused by a fall on the point of the elbow. The fragments are not displaced. The olecranon region is swollen and tender. Active extension of the elbow against resistance is possible, showing that the triceps muscle is not torn from the bone.

The patient may use a sling for a few days, at the end of which time the elbow rapidly returns to normal.

(ii) The **indirect fracture** is caused by forcible flexion of the elbow while the triceps muscle is strongly contracting—this usually happens as the result of a fall. The fracture line is transverse and is about the middle of the olecranon fossa. There may be no displacement, or the upper fragment may be pulled up by the triceps. The gap in the bone can be felt. X-ray confirms the extent of the gap.

The treatment depends on whether the rupture of the triceps muscle is complete or incomplete.

If the rupture is incomplete, that is, if the patient still retains the power of extension of the elbow against resistance, the arm is rested in a sling for about 2 weeks and then active movements at the elbow started.

If the rupture is complete, the triceps tendon must be re-attached to the ulna. The simplest method of doing this is to suture the bone. The suture should not be fragile and should not be under tension when the elbow is fully flexed.

If the upper fragment is small, it may be examined and the triceps sutured direct to the shaft of the ulna. Active movements are started at once.

An associated forward dislocation of the elbow may complicate a fracture of the olecranon. The dislocation is reduced and the suture of the triceps is carried as mentioned before. The elbow is immobilized in cuff and collar for about a week, and then active movements are started.

(iii) **Fracture of the capitellum.** The capitellum is sheared off by a force accompanying the fracture and is tilted forwards and displaced upwards. The fracture is clearly recognized in the lateral X-ray picture. Fracture of the head of the radius may co-exist.

Replacement of the fragment is essential—it carries about half the articular surface of the humerus. If so large an area of the joint is excised, the capsule tends to become adherent to the raw bone and movement is limited. Every effort must be made to replace the bone rather than excise it, particularly since its blood supply is usually preserved by soft part attachments.

It may be possible to reduce by closed manipulation. If not successful, the elbow joint is opened on the outer side and the fragment pressed back into position. No internal fixation is required. The elbow is rested in a sling and active movements started in a few days.

(iv) **Fracture of the head of the radius.** Corresponds to the fracture neck of the radius in children and is due to a fall on the outstretched hand. Three groups of fractures are differentiated:

(i) **Chisel or crack fracture.** The fracture is incomplete and consists of a fissure running longitudinally from the centre of the articular surface down for about half an inch.

(ii) **Marginal fracture.** A small wedge-shaped fragment is partially split off the outer margin. The fragment is usually depressed, but it may be elevated, or it may be completely detached, forming a loose body inside the joint.

FIG. 3

(iii) **Comminuted fracture.** The head is split in several places, radiating from the centre, and the fragments scattered.

Treatment depends on the type of the fracture.

(i) **Treatment of the chisel fracture.** No reduction or fixation is necessary. A cuff and collar may be provided for a few weeks and patient is encouraged to take the forearm out of the sling and practise active movements.

(ii) **In case of the marginal fracture,** if the fragment is loose inside the joint, it must be removed. There should be as little disturbance as possible. The joint is opened, the loose fragment is picked out, and the wound closed.

If the fragment is not loose and is elevated above the level of the joint surface so that there is distortion of the articular plateau, it is better to operate and excise the head of the radius.

(iii) **In the comminuted variety,** the head of the radius should be excised. After operation the arm should be supported in a sling and movements encouraged immediately. Occasionally, operation is followed by the deposition of the bone in the capsule of the joint, and severe restriction of movements results. The patient should, therefore, be carefully watched; if the movement is not gradually increasing, the joint is irritable, and all movements should be barred for a few days and then recommenced gradually.

Fracture of the coronoid process of the ulna. This is an infrequent type of fracture. This may be caused by hyperextension of the elbow, by injury forcing the humerus against the coronoid, or it may accompany a dislocation. It occasionally follows indirect violence; the bracchialis anticus pulling it loose. There is pain on pressure over the coronoid and on forced flexion. Usually, there is little or no separation, and a sling for about two weeks is usually sufficient treatment.

Dislocation of the elbow. The type of injury which produced supracondylar fracture in children, usually produces a dislocation of the elbow in the adult. Both the forearm bones are displaced back on the humerus.

Even though the elbow is swollen, it can usually be seen that the posterior outline of the arm, as viewed from the side, is abnormal. The olecranon process can be felt projecting back as a knob. The arm is held up about 180° and, although motionless, is not supported. No movement, active or passive, is possible.

For reduction complete anaesthesia is essential. Reduction is easily obtained by the same procedure used for the reduction of the supracondylar fracture. The dislocation reduces with a snap.

As soon as the patient recovers from anaesthesia, the nerves are tested and an X-ray is taken to ensure that the reduction is exact and to see whether there are any associated fractures. If there are no fractures, the elbow is rested in a sling for a few days and active movements are encouraged at once.

Prognosis is good, provided there are no complications.

Complications

(i) **Associated fractures.** There may be fractures of the head of the radius, the capitellum, the coronoid, or of the epicondyles. It is easier to operate for the treatment of fractures at the end of a week or so, when the swelling is less. After operation, treatment is continued as for an uncomplicated dislocation, that is, a sling, and active movements.

(ii) **Nerve injuries.** Although nerve damage is rare, any of the three main nerves may be damaged.

(iii) **Myositis ossificans.** This is common and causes some permanent loss of movement which is not necessarily proportional to the amount of the change shown in the X-ray. Attempts at forcing movements at the elbow create more ossification and result in still less movement. A dislocation should be carefully watched for the first ten weeks after the reduction. If the range of movement at any time gets less, the elbow should be rested for a few more days.

(iv) **Partial reduction.** Although the backward displacement has been corrected, a sideways shift may persist and either the radius is in contact with the trochlea or the ulna with the capitellum. If the reduction has not been checked by an X-ray, the doctor and patient remain in blissful ignorance until, with the disappearance of the swelling, the bony outlines of the elbow demonstrate that all is not well. Reduction can then only be obtained at open operation, with poor results.

Tennis elbow. The condition known as tennis elbow is characterized by pain over the outside of the joint below the external epicondyle. It occurs in individuals whose recreations or occupations necessitate frequent pronation-supination movement of the almost fully extended elbow.

It may, therefore, be due to playing tennis, screwing, hammering, ironing, wringing, etc.

The generally accepted view is that the lesion is an incomplete rupture of the fibres of the common extensor origin of the muscles and particularly of the extensor carpi radialis brevis, with a secondary traumatic reaction in the adjacent periosteum of the external epicondyle.

The pain is referred down the back of the forearm and it often increases until the patient cannot turn a door knob or hold a teapot. The symptoms seldom persist for more than a year, and, when they have once subsided, they do not recur even if the game or work which was originally responsible is undertaken once more.

Treatment

Manipulation to extend the elbow fully while the forearm is held pronated and the wrist and fingers flexed. The principle is to make an incomplete tear into a complete tear and relieve the strong muscle pull

from the painful periosteum, and allow repair of the tendon with slight lengthening. Active exercises are immediately practised and, if necessary, manipulations are repeated without anaesthesia every fourth day until relief is complete.

If manipulations fail, open operation is undertaken to dissect out the common extensor origin from the bone of the epicondyle or division of the tendon, and also repair of the tendons with slight lengthening.

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EDITORIAL COMMENTS

DOROTHY M. VAUX, Offg. Principal, Christian Medical College, Ludhiana

No DOUBT the majority of our readers are familiar with the story of the founding, in 1894, of the Women's Christian Medical College, Ludhiana, the first medical school for women in India, by Dr Edith Brown, who is now living in retirement in Srinagar, Kashmir, and also know something of the God-given vision whch was hers, and of the story of its partial fulfilment over the years, and of the triumph of faith over many difficulties and opposition right down to the present day. The story is not only one of faith, but of God's dealings with His Servants and His definite leading on in the path of His choosing, and of His wonderful provision and faithfulness in times of great stress and need, as well as in times of plenty.

Why has the vision only been partially fulfilled and what is the vision today? In spite of the fact that over the years 574 doctors, 376 nurses, 157 dispensers, 33 health visitors and over 2,000 midwives and nurse dais have gone from this institution fully trained, yet one must face the fact that there is a tremendous lack of medical aid available in this land, and the vision of adequate Christian mission hospitals, in every section of the land, staffed by consecrated servants of Christ, still awaits total fulfilment. The vision today is the same as that given to Dr Brown years ago—a vision of a centre of medical and spiritual teaching, from which there is an ever increasing flow of doctors, nurses, dispensers, technicians, health visitors and midwives, going forth to every corner of this land with physical and with spiritual healing in their hands.

This is why the Christian Medical College, Ludhiana, having been advised by Government that admissions to the Licentiate grade of training must cease as from 1952, and being fully convinced of God's seal upon their decision, and of His subsequent leading, are going forward in faith and absolute reliance upon Him, to upgrade the institution to university standard, and to become co-educational.

Admissions to the Licentiate Course have now ceased and the next admissions will be to the M.B., B.S. course.

What are some of the tokens of God's seal upon the plan and of His Guidance?

In the first place, the unsolicited offer by the Punjab Government and the Government of India to bear half the capital cost involved in the upgrading scheme, on condition that the institution undertook to raise the remaining half over a period of ten years, i.e., by 1961. This has been followed by God's wonderful provision through His servants in India, Great Britain, Canada, U.S.A., New Zealand and Australia, so that as

early as the present day, 1953, we have been assured of well over half the required total amount. In addition, a site of 5½ acres of land, close to the college, has been given by the American Presbyterian Mission for the site of the required new hospital. Included in this gift are mission buildings, known as Wherry Hall, at present occupied by Government for school buildings, but possession of which has been promised to us at an early date, which are to be used as a hostel for the men students to be admitted.

Then what of the greatly increased staff which would be required? From 1949 to the present day we have welcomed 14 additional members, including surgeons, physicians, radiologist, pharmacist, technicians, sisters, secretary and housekeeper; two more families are on their way out from America, and others are expected from America and also from Great Britain in the autumn. In India, Australia, Canada, U.S.A. and Great Britain, we are in touch with still more possible future staff members, and are expecting that several of these will be with us in the not too distant future.

How are staff members supported: what about the increased expenditure incurred with the increase of staff? In this connection mission cooperation has become a very real thing. On the sudden death of the Principal, Dr Pollock in 1948, the Church of England Zenana Missionary Society sent and guaranteed the continued support of Dr Eileen R. Barter Snow as Principal. In addition the Church Missionary Society have taken on the support of two members of staff, the Baptist Missionary Society, the Methodist Church in Southern Asia, the Church of Scotland Mission, and the Zenana Bible and Medical Mission are all supporting one member of staff, and the Dutch Reformed Church of Grand Rapids, U.S.A., have taken on the support of the Medical Superintendent, Dr S. Bergsma, and his family. Further, the American Presbyterian Mission have guaranteed the support of two of the families now on their way out, and the Methodist Church in Southern Asia the further support of one family.

What is the position today? In the college the alterations and additions necessary have almost been completed, and new single staff quarters planned out of the old Anatomy block are now occupied. The architect, Mr E. J. Armitage, MA, ARIBA, AIIA, DIP., TP, (Junior member of the firm Maxwell Fry and Jane Drew, architects for Chandigarh) has finalized the plans for additional married staff quarters, and the building of these will commence shortly. He has also almost completed the plans for the new hospital of 450 beds (including 100 private beds).

When the necessary hostel accommodation for men is derequisitioned, it is hoped that the admissions each year to the medical course will be 25 men and 25 women. At present there are 170 women and 4 men in training.

The nursing school attached to the Memorial Hospital affords complete training (including male training) for nursing students for the State Registered Diploma, and at the present time there are over 70 students in residence.

The dispensary situated at the opposite end of the city, and three health centres, in different parts of the city, have been operating under the Memorial Hospital for many years, in connection with which one of the largest domiciliary midwifery services in this country is carried on.

Within the next month or two a long desired project is to be put into operation by the setting up of a unit for Preventive Medicine and Public

Health, under the leadership of Carl E. Taylor, M.D., Ph.D. Dr Taylor will develop this department in the college, working particularly in selected villages in the neighbourhood, in which a certain amount of dispensary work has been carried on for several years. It is hoped to work in co-operation with missionary workers, especially sanitary engineers, in the Extension Department of the United Christian Schools, Jullundur, approximately 40 miles from Ludhiana.

The objectives of this project may be listed as follows:

(a) To obtain long term reliable vital statistics on selected village populations.

(b) To discover and follow the pattern of health and disease in these villages.

(c) To study the total ecology of village life as it influences the health of the people.

(d) To train health workers for village service both on professional and lay levels.

(e) To conduct controlled studies on major health problems in certain villages to discover the epidemiological factors determining the occurrence of disease and suitable local adaptations of control measures.

(f) To conduct basic research on diseases of the area which are little understood.

Health visitors are trained at the Ludhiana Health School, run under the auspices of this institution, and at present there are 19 students in residence.

In addition to the above, there is the Dispensing Course and Laboratory Technicians Course, open to candidates of at least Matriculation standing: in the latter at the end of the first year the C.M.A. examination is taken, but if the students desire a Diploma of the Punjab State Faculty they must take a further year's training.

Indianization of the staff has progressed very slowly over the years, but it is felt that this will become more and more possible with the introduction of men students. At present there are 3 Indian sisters and two Indian doctors on the missionary staff, but in addition further medical and nursing graduates are taking postgraduate training in India and overseas, with a view to returning to the staff afterwards.

The ultimate aim is a College and Hospital built, equipped and staffed adequately for the training of University graduates; the staff being entirely Indian Christians dedicated to the service of God through their profession of healing and with the vision of carrying on the training of young people to be medical missionaries working in Christian hospitals in towns and villages throughout the land. In this way Ludhiana may be able to do its part in co-operating with the evangelistic and educational work of the Church in building up the Kingdom of God in India.

MEDITATION

'HE RESTORETH MY SOUL'

By R. VEDABODAKAM, St Luke's Hospital, Nazareth

An address delivered at the Regional Conference of the Christian Medical Association at Madanapallee on 6-12-1952

We are all quite familiar with the unique grandeur of Psalm 23, an exquisite, yet simple expression of the deep religious experience of King David. Let me share with you to-night one of the many facets of this wonderful gem of a Psalm. In all probability this Psalm was composed at the closing and mature period of King David's long reign of 40 years, after he had passed through the vicissitudes of his life's journey of three score and 10 years. It is a grateful retrospect, of what the great Good Shepherd had stood for in His relation to the humble sheep, the Psalmist. Humility which is the beauty of holiness, characterizes this Psalm of his life's experience, from David the shepherd lad to the victorious King of all Canaan who had conquered the many national enemies and founded the Kingdom of Israel. This Psalm may be said to be a confession of his faith, nay his creed, feelingly stated in acknowledgement of the tender mercies vouchsafed to him, the sheep, by the great Good Shepherd, the King of Kings.

Mark you, this Psalm is not a prayer but a Confession of Faith. The author does not pray to be led to the green pastures and the restful waters, he is there already. He does not pray for the Divine protection as he passes through the gloom of valleys. He enjoys it already. Already the table is spread and his cup is running over. He has an unbroken sense of Divine goodness. The Psalm is full of the sense that life is pervaded by a Presence. We may be travelling through the great and terrible wilderness, but its terrors vanish for one who can say 'Thou art with me'. He sees across his life green and happy spots where he was repaired, refreshed, renewed, energised and restored. We may very well excavate many deep truths of experimental religion born of spiritual experience as appropriated and realized by King David, a man subject to like passions as we are. But, for our present purpose, I shall confine myself just to one phase of this solid experimental religion.

It is this: **'He restores my Soul.'**

A good shepherd while he inspects the sheep one by one in the evening as they pass into the fold has the horn filled with olive oil and anoints a knee, bruised on the rocks, or a side, scratched by thorns. And here comes one that is not bruised but is simply worn and exhausted; he bathes its face and head with the refreshing olive oil and he takes the large cup brimful of water and lets the weary sheep drink. God's care is not for the wounded only, but for the worn and weary also, thus runs the concern of the shepherd for every individual sheep of the flock.

With more personal application, how often our Good Shepherd has found us in need of repair and restoration. As each evening closes, having passed the day through varied events and vital problems and being strained with the lust of the flesh, lust of the eye and pride of life, do we not often so realistically find ourselves conscious of the need for a cleaning up, a repair, a healing up and a restoration? I presume most of us remember

and can testify to the Master's early call to us by name and our enthusiastic and ready response to it in our own simple way, our obedience and whole-hearted following. Alas! as days pass how weary we become! The problems peculiar to our professional as well as Christian Service have affected us dangerously and we sigh for the warm simple love of the early days when we did vow to serve Him with all our heart, soul, mind and strength. Early when we entered the Service of the Kingdom, we did hear the arresting, irresistible, definite and sweet call of the Master to heal the body and soul of those committed daily to our care; but as days passed the freshness of it all waned and the call is now heard indistinctly and perhaps doubtfully. We have lapsed into spiritual lethargy. Indifference, to the larger and loftier issues of life, has taken the place of our early love and enthusiasm. Perhaps the Enemy has taken us to the high mountain of position, power and the glamour of life and has demanded homage to him, and as a result we are much toned down and are compromising with Evil.

Worldly society with all its accessories is another fruitful source of spiritual decline. Frivolous conversation, empty literature and unbecoming pursuits of what is called 'Society' tend to take away the fine edge of the soul's love for the Master and of Service to humanity.

Another source of deadening effect on our Service is the problem of sex. The world I am grieved to say is tending towards loose thinking and acting in morals. Peculiar situations in our professional activities tend to lower the defensive forces of sex-morals. This vital question carelessly faced and indifferently handled has ruined many a Christian worker and terribly affected the health of the Institution to which he or she is attached. Unless or until the individual and the world at large learn to recognize and maintain the standard of sex-morals as enunciated and propounded by the Master on the Mount, 2000 years ago, the future welfare of humanity is gloomy. Any Christian who under the cloak of 'progressive modern outlook' deliberately lowers that standard does the worst injustice to his own person as well as to the interests of the Kingdom of God. If this is conceded, the present situation demands profound watchfulness on the part of those called to teach religion by healing and preaching. I have been constrained to make reference to this since the Enemy knows this as the weak spot in our Service and perpetrates the worst evil in the life of many a chosen Christian Medico, to stand self-condemned as unfit for the Master's use—moral suicide of the worst order.

Filthy lucre is another of the means the Evil one employs to thwart the ambition of the Christian Pilgrim. Receiving remuneration from patients under questionable circumstances defeats the purpose of one's high calling. There are times when we would silence our conscience and make life pleasanter by getting gratification and gifts in clandestine ways so as to provide better for our families if we are not very particular about absolute submission to God's holy will. 'A man must live rather decently' we say. I would rather say 'Man need not live, rather die than fail to live honourably and betray the Master's trust'. As descendants of the heroes who laid the foundation of the Modern Medical Missions, young doctors and nurses were once drawn by the vision of the cross and fired with the charge to heal not only the body but also the soul with eternal values. How pathetic it is to see them now leading a lukewarm existence and sunk in rank materialism! These find themselves inadequate to testify for Christ

and unfit to protest against sin, nay unwilling to admit the deterioration that has crept in. Such, in the long run, having lost their fellowship with the Unseen, arrive at the hopeless conclusion that they cannot now be mended. How welcome it is to turn to the restoring or repairing grace of the Master Who is able and willing at all times. This repairing and restoring process of the soul ought to be a day-to-day affair. Failing to attend to this day-to-day little or small repair, causes increased amount of repair and a condition of immense repair results which may lead to the verdict 'Irreparable'. The solution to avoid that desperate position lies in the daily attention to the daily pitfalls. 'A stitch in time saves nine.' Our Master, in the training He gave to the twelve, time and again brought this need for daily repair to their attention and reinforced it by making them witness His daily practice of waiting at the feet of His Heavenly Father at a very early hour of the day for restoration and renewal.

'*And in the morning rising up a great while before day, He went out and departed into a solitary place and there prayed*' (Mark 1:35).

Is it not our common experience that whenever this early morning hour between 5 and 6 while it is yet dark, is wasted away perhaps just in sheer laziness, the soul feels low, unfed and unfit for the day's task? Even a trivial problem gets magnified and we fumble at every step, lacking conviction, drive and efficient decision. At times the unwary are led to precipitous situations of moral calamity. It is said no locomotive engine is allowed to run at a stretch more than 100 miles, at the end of which it is stopped, cleaned and oiled and minor repairs are attended to before it is again put on the run. With how much more realism this process ought to be practised in the realm of the spirit! The human personality does demand similar attention if he or she is to fulfil the Master's plan in this planet. If this daily morning restorative or repair process is neglected, or slighted, surely there is a rift in the lute. Many a fallen character has bemoaned in after years the magnitude of the effect of slighting this daily early morning watch when he or she would trace the cause of the fall to this one neglect of Repair and Restoration, that is the Morning Watch.

The Master has trusted us and has called us to attempt great heights of service in our different places of medical mission work, namely, reconciling men and women to their Lord and Saviour through the ministry of healing. Only those who are intent and purposeful in maintaining this experience of the Master in their own life—Morning Watch for repair and restoration—would be enabled to have His will for them fulfilled in them and through them, since they offer themselves to Him at that hour that He may repair and restore them.

One might feel inclined to raise the cry 'Who is sufficient for these things?' but let us rest assured 'Our sufficiency is of God, the author and finisher of our faith.' The God of the shepherd-King David, is the same yesterday, today and forever. He is not partial. The Medical Mission heroes in the different parts of the world, Christian doctors and nurses who have gone beyond the veil ahead of us finishing their race gloriously, beckon to us, 'Run that ye may receive.' Since He is alive He never fails. He is with us. His name is Immanuel. He is faithful.

But the question is 'Do I want to be kept in good repair daily?' 'Do I want to be restored?'

'He restores my soul, He leads me in paths that are straight for His name's sake.'

'*They that wait upon the Lord shall renew their strength, they shall mount up with wings as eagles: they shall run and not be weary: and they shall walk and not faint*' (Isa. 40:31).

DEDICATION

Teach us good Lord, to serve Thee as Thou deservest, to give and not to count the cost: to fight and not to heed the wounds; to toil and not to seek for rest, to labour and not to ask for any reward, save that of knowing that we do Thy will, through Jesus Christ our Lord. AMEN.

—*Ignatius Loyola*: A.D. 1491

This creed of the shepherd-King David, as rendered by Moffatt in modern speech is as follows:

The Eternal Shepherds me, I lack for nothing;
He makes me lie in meadows green,
He leads me to refreshing streams, and revives life in me.
He guides me by true paths, as he himself is true.
My road may run through a glen of gloom, but I fear no harm, for thou art beside me; thy club, thy staff—they give me courage.
Thou art my host spreading a feast for me, while my foes have to look on!
Thou hast poured oil upon my head, my cup is brimming over; yes and all through my life goodness and kindness wait on me, the eternal's guest, within his household evermore.

WHO PRESS RELEASE

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH EAST ASIA

SEA/PR/53–12
New Delhi, February 13, 1953

INFLUENZA MAY BE CONQUERED WITHIN A FEW YEARS

WHO experts say

[The following is based on information received from WHO Headquarters, Geneva]

According to experts of the World Health Organization, medical science is on the point of mastering influenza whose annual winter outbreaks have serious economic consequences in many countries.

This progress, they state, has been made possible through the co-ordinated efforts of a network of 55 'influenza centres' in 44 different countries working under the overall guidance of WHO in conjunction with World Influenza Centre in London.

In India the three WHO influenza centres are situated at the Haffkine Institute, Bombay; the King Institute, Guindy, Madras; and the Pasteur Institute of Southern India at Coonoor.

The rapidity with which exchange of information has taken place since the first signs of the present epidemic has made it possible to determine with

certainty that the virus concerned in 1953 is the A-prime virus. This, in turn, has made possible the immediate use of vaccines prepared from it and the carrying out of large scale vaccination, whose results will be of immense value in the prevention of influenza.

Thus, in Holland, workers and employees in large works and factories have been vaccinated. In the United States, Canada and Great Britain mass vaccination has been carried out mainly in barracks and hospitals, ideal places for the transmission of the infection.

According to the report of the first WHO Expert Committee on Influenza, publication of which has just been authorized, the main difficulty slowing up advance in this field is the variety of influenza viruses, which comprise an extensive range of antigenic variants. Thus, at the present time, research workers are confronted with three groups of viruses, A, B and C, each of which includes several sub-categories.

In their report, the WHO experts express serious doubts as to the value of quarantine measures against influenza, stating that:

> 'the isolation of groups within a community has not been shown to limit the spread of infection. Quarantine at a national level would only be likely to be effective in the case of islands and geographically isolated communities. There is no evidence that in the case of large areas quarantine could be applied effectively.'

Medical Literature Abstracts

Journal of the Indian Medical Association. Vol. XXII, No. 6 (March 1953):

New approach to treatment and prophylaxis of colds. A. G. Good, M.D. (Page 244).

Summary

A new conception was considered, viz., that in the common cold, of whatever cause, the primary pathogenic mechanism is the formation of histamine. Since adrenaline is a *physiological* antihistaminic, a synthetic allied sympathomimetic compound, d. deoxyephedrine (methedrine), was used for the effective control of the malady. Clinical trials extending over several years seem to justify the conclusion that methedrine in suitable doses is capable of abolishing all the symptoms of acute cold and respiratory catarrh effectively and rapidly. If continued for a number of days, methedrine appears to cure acute colds, without recurrence after discontinuing the drug. It gave also satisfactory therapeutic results in subacute and chronic bronchitis.

Streptomycin in bubonic plague: V. D. Dubey, M.B., B.S. (Page 250)

Summary

1. 18 cases of bubonic plague treated with streptomycin are cited.

2. 14 cases required 1 gm. of the drug. This included a delirious case, whose delirium had disappeared and the temperature touched normal in 24 hours. Only 4 cases required 2 gms. of the antibiotic. All these cases were very toxic in the beginning and fever had not come down to normal 24 hrs. after the first injection. The average time for the buboes to subside in first series was 6.8 days, in the latter 10 days and in all 7.5 days. No suppuration of buboes occurred and hence none required incision.

3. All cases were cured.

BOOK REVIEW

Physician's Handbook: By Marcus A. Krupp, M.D., *et al.* Lange Medical Publications, P.O. Box 1215, Los Altos, California. (Seventh Edition). Price $2.50. Pp. 1–380.

This is an extremely useful book for quick and ready reference. I am absolutely amazed that the authors were able to get as much information into so small a volume. Although the type, of necessity, had to be small, it is clear and easily readable. There is hardly anything that has been omitted in the way of physical examinations, histories, laboratory procedures, and the use of drugs. There is a valuable section on hormones, a section on the technique of skin tests, a section on endocrine tests, and a very useful section dealing with the methods of removing common stains. Altogether, it is a most valuable book, especially for the house-surgeon.

Unfortunately, the conversion table of Centigrade to Fahrenheit and *vice versa* is confusing. For instance, it says, '1°C=1.8°F', whereas it ought to be 1°C=1.8°F+32. As far as the Fahrenheit to Centigrade conversion is concerned, the formula given does not give the correct equivalent, even with the use of the '32' factor.

—H.H.G.

ASSOCIATION NOTES

Fourteenth Biennial Conference of the Christian Medical Association

The fourteenth General Conference of the C.M.A. will be held in Nagpur, October 23rd–26th. Full details will appear in the July Journal. Plan now to have your hospital represented.

Hill Medical Conferences

Nilgiris Medical Conference at Kotagiri, May 6th.

Kodaikanal Medical Conference at the Missionary Union Kodaikanal on May 18th–19th.

Landour Medical Conference at the Community Centre, Landour, June 13th.

Summer addresses of Secretaries

The summer addresses of the secretaries will be their cold weather addresses:

Dr E. W. Wilder, Nelson Square, Nagpur

Mrs E. A. Watts, 'Farley', Ootacamund, Nilgiris

Telegraphic Address

Persons having to telegraph to the Nelson Square Office could save a considerable amount if they address their telegrams to 'Succour', Nagpur, the registered telegraphic address. The Hospital Supply Agency is 'Succour', Bombay.

1953 Hospital Sunday Collections

			Rs	A.	P.
February	4	Mar Thoma Syrian Church of Malabar * ...	50	0	0
	9	Anonymous	10	0	0
	10	Shahpur Church, Betul	15	0	0
		The Church of Christ, Jamshedpur	50	0	0
		Christ Church, Jalna	40	0	0
		Baptist Mission, Pithapuram	50	0	0
	18	Sunday School, Chabua	17	15	0
		Mrs B. E. Nilkanth, Chindwara	10	0	0

* 1952 collection.

		Rs	A.	P.
22	S. A. Emery Hospital, Anand	100	0	0
	American Baptist Telugu Mission, Nellore ...	45	0	0
	Church of South India, Royapuram	28	0	0
	Pendra Road Church	26	0	0
	Dhar Church	22	7	0
	St Bartholomew's Church, Barrackpore ...	3	0	0
	Sharamshram Church, Banswara	32	6	0
	Baptist Church, Tezpur	45	3	0
	First Church, Ahmednagar	25	0	0
	L.M.M. Church, Vizagapatam	11	0	0
	Gozaghat Mission, Assam	10	8	0
	S. M. Church, Lonavla	3	2	0
	Disciples-Narbahar Church, Bilaspur	20	4	0
	Patna Union Christian Church, Patna	27	11	0
	Assamese Church, Tezpur	16	2	0
	U.C.N.I., Mainpuri	25	13	0
	Christian Church, Diglovi	10	0	0
	Baptist Church, Midnapore	11	0	0
	Etah Church	13	0	0
	College Hill Chapel, Vellore	41	0	0
	Duchess of Teck Hospital, Gulzarbagh ...	7	0	0
23	U.C.C. Mission, Mandleshwar	45	14	0
	C.S.I., Kowthalam	8	6	0
	St John's Church, Vizagapatam	10	12	0
	Danish Mission Church, Siloam	30	0	0
	Methodist Hospital, Nadiad	75	0	0
	Church of S. India, Ranipet	15	0	0
28	Christian friends, Jogbani	10	0	0
	Dr R. Humon*	22	0	0
March 1	Mennonite Church, Champa	32	0	0
	A. P. Mission, Etawah	4	0	0
	Bethesda Church, Champa	40	0	0
6	Baptist Church, Jorhat	13	0	0
	Marathi Methodist WSCS, Nagpur	9	0	0
	SCM, Medical College, Dibrugarh	12	0	0
12	Methodist Church, Sarenga	30	0	0
	The Uluberia Church of God, P.O. Uluberia ...	13	0	0
13	Mission House, Chandausi	6	8	0
	Church of Christ, Mungeli	48	0	0
16	Neemuch Church	39	5	0
	Webb Church, Madurai	17	2	0
18	U.C.C. Mission, Hat Piplia	177	0	0
24	Bhagalpur Diocese	183	7	3
	Dr Kolhatkar, Baramati	7	0	0
	Pandharpur Church	10	0	0
27	Hannumakonda, Warangal and village churches	200	0	0
	Total Rs	1,824	13	3

* 1952 collection.

SECRETARIAL NOTES

Nagpur. Jan. 1–9. The usual business with accounts and auditors reports plus conferences with the architect. On the 11th invited by Mr and Mrs Korula Jacob to tea to meet Bishop Jacob of Kottayam, his father. The next evening to dinner with the other N.C.C. Secretaries at the home of Rev. and Mrs Scott to meet Bishop and Mrs Ivan Lee Holt of the Methodist Church of North America on their way from Lucknow to Bangalore. On the 15th a number of friends to dinner to help celebrate our 30th wedding anniversary.

Bilaspur–Calcutta–Patna. Jan. 19–25th. Off on the passenger at 9 p.m. for Bilaspur for the meeting of the Pendra Road Sanatorium Executive Committee. A restless night as the carriage bumped a good deal over the road bed; moreover the stops at stations were often punctuated by bugle calls, shouts of 'Zindabad' and the explosion of an occasional bomb. All was made clear in the morning when found that in the next compartment travelled Master Tara Singh, head of the Sikh community. At Bilaspur there was a guard of honour to receive him with the bugle and drum corps that accompanied him. Was interested to see this little man with the long beard who wields such an influence. Attended the meeting of the Committee and in the afternoon saw over the completed nurses' hostel and the comparative order that has descended on the Jackman Hospital since removal of the nurses' quarters from the main hospital building. Entrained for Calcutta about 6 running through some good showers.

Awake and off at 7 for the Baptist Mission Compound in Lower Circular Road. Greeted by Rev. D. Scott Wells and introduced to some of their missionaries gathered for Conference. Before the meetings started had an opportunity to meet Dr J. W. Bottoms of Chandraghona and begin to make plans for the tour of the British Baptist medical work. To office of the Deputy High Commissioner for Pakistan for the usual 'runaround' to secure an entrance visa. Other errands. Later in the day met Dr Nirmal Chandra Ghosh of Chandpur in E. Pakistan. Off at 10 for Patna.

Met at station, although the train was over an hour late, and taken to the Duchess of Teck Hospital. Busy with office work but after Dr Anderson's return from the village with her to the Patna Medical College Hospital meeting Sister Abraham, Matron and Sister Joseph, Sister Tutor, and enjoying some South Indian coffee and sweets.

The next day with Dr Anderson inspecting possible sites for the Biennial and interviewing the concerned Government personnel including the Hon. Speaker. That evening to tea came a group of persons to talk over plans. Off the next morning at 7 for Nagpur via Moghul Serai, Benares, Allahabad, and Itarsi, arriving on the evening of the 25th in time to attend the evening service at the Scottish Church and to hear Rev. Robert Mackie, one of the Vice-Presidents of the World Council of Churches. Said good-bye to Ruth Ure and greeted Dr Elizabeth Pedersen of Ambala who was accompanying her to Bangalore for her marriage to Mr W. H. Warren of the C.L.S.

Nagpur. Jan. 26th–Feb. 12th. Took advantage of the meeting of the Audio-Visual Committee of the N.C.C. to confer with Dr Gladys Rutherford, one of its members. On Sunday the 1st interested to see Dr John R. Mott at church with his daughter after his serious illness here in Nagpur. On the 3rd to a short interview with him. 'Old things have passed away; all things (may) become new.' On the 8th, Hospital Sunday preached in the Marathi church service. On the 9th welcomed old friends, Dalton and Maud McClelland of the Y.M.C.A. to dinner.

Bombay–Wai–Miraj–Bangalore–Vellore. Feb. 12–March 2nd. Off on the Bombay Mail with Rev. Roland Scott of the N.C.C. The next morning with him in Bombay to confer with Mr Ross Thomas, Treasurer of the N.C.C. about

us around, explaining that they soon hoped to have a third doctor for the laboratory and blood work and an additional nurse. Our last visit was to a popular eye hospital. The Superintendent apologized for appearances, due he stated to the fact that it was the eye season. The large building and its annex were crowded with 700 patients and he was averaging 100 operations per day. The following morning was spent in conference and at 3 left for a not so quick return passage getting in at 6:30. Had planned that evening to visit the Railway Exhibition which was extremely popular but did not feel up to it. By morning an antrum was tuning up and after service at the Free Church called on Dr A. T. George who prescribed for and reassured me. Spent most of the rest of the day in bed till time to leave for the Grand Trunk. Arrived 24 hours later in Nagpur and feeling better.

Nagpur. March 23rd–30th. The usual grist and preparations for Mrs Wilder's departure. Off for Bombay by mail on the 30th with her to see her sail on the 2nd of April.

NEWS NOTES

Arrivals in India

Dr R. Arthur Hughes of the Welsh Mission Hospital in Shillong from furlough.

Dr R. G. Cochrane, former Vice-President of the Christian Medical Association arrived in India in February for a short visit. Among other places he visited Vellore and the work of the Mission to Lepers.

Dr Carl E. Taylor of the American Presbyterian Mission joining the staff of the Christian Medical College, Ludhiana after study for his doctorate in Public Health.

Dr Bradford Steiner returning from furlough to the Community Hospital, Landour.

Departures from India

Dr R. Ben Gullison of the Arogyavaram Hospital, Sompeta.

Dr G. Parul Roberts of the Welsh Mission Hospital, Durtlang.

Dr Reeve H. Betts of the Christian Medical College, Vellore to America on furlough.

Dr K. Carlsen of the Danish Mission Hospital, Tirukoilur on furlough.

Dr John George of the Methodist Mission Hospital, Bidar is proceeding to Vienna for two years postgraduate training.

Dr E. C. Riggs of Kilanjunai, Ramnad Dist. to America on furlough.

Dr Margaret F. Johnson of Lusadia on furlough.

Dr E. Lloyd Cunningham of the Quinter Memorial Hospital, Bulsar on furlough.

Dr George Hughes of the Roberts Hospital, Borsad on furlough.

Dr and Mrs (Dr) E. W. Gault of the Christian Medical College, Vellore flying to Australia on short leave.

Dr E. W. Whitcomb of the Evangelical Hospital, Tilda to America on furlough.

Dr H. Gordon Roberts (Retired) having completed the building of the new Welsh Mission Hospital, Jowai, has returned to Wales.

Dr Ian Thomas Patrick, English Presbyterian Hospital, Rajshahi, East Pakistan, on furlough.

Dr Rhona Oliver, Godaveri Delta Mission Hospital, on furlough.

Dr A. Ballard, United Christian Hospital, Lahore, to America on furlough.

Dr Lilavathi Thomas, Regions Beyond Mission Dispensary, P.O. Siwan, Saran, to the West on study leave.

Transfers and Postings

Dr I. F. Bache as Medical Superintendent of the Mission Hospital, Tirukoilur.

Dr A. B. Lindsay of Golaghat to be in charge of the Welsh Mission Hospital, Durtlang during the furlough of Dr G. P. Roberts.

Dr Katherine M. Young for many years at the Leper Hospital at Chandag Heights has now started a new medical work at Dharamgarh.

Drs Dorothy Timpany and *Janaki Krishnamurthy* of the Christian Medical Centre, Pithapuram are at Vellore gaining experience in the Thoracic Surgery Clinic and other departments.

Dr Mariam George from the E.T.C.M. Hospital, Kolar, to the Madura Mills Hospital, Ambasamudram, Tirunelveli District.

Dr (Mrs) Marian Moore, Memorial Hospital, Fatehgarh, U.P., to Mainpuri.

Dr J. A. Thompson Wells, Christian Medical College, Vellore, to the Madar Union Sanatorium for Tuberculosis, Madar, Ajmer.

Gleanings

The Emily Rank Memorial Hospital, Karimnagar reports the appointment of Mr John Purushotham as almoner. The hospital has been recognized for nurses and midwives training by the Hyderabad State Medical Council. The Government Hospital at Karimnagar now has an X-ray and it is expected that its services will be available to the mission hospital. The statistics for the year remain at about the same level as in 1951.

The Basel Mission Hospital, Udipi, reports increased numbers of patients in their two out dispensaries while those at the center have shown a tendency to decrease. The new T.B. ward has been completed and with the occupation of the male ward last July the main hospital is now reserved as in former days for women. The next item on the program is the construction of the Chapel.

The Willis F. Pierce Memorial Hospital, Wai. One of the major features for report is the change over in the matter of charging and collecting of fees. A list of charges for services has been made out and bills are issued on the basis of these charges. 90 per cent of the patients have paid without asking for reductions; of the 10 per cent asking for reduction, the Committee which considered their appeal deemed that 40 per cent could pay the full amount. There have been improvements in the sanitation and in water and power supply. The dharmasala has been commenced and there is expectation of getting a modern X-ray to replace the old open type installation.

NOTICES

CHANGES IN MEDICAL REGISTRATION

Doctors with foreign qualifications serving in Christian hospitals and not profiting by fees for private practice are *assured* that *there is no change* in the method or qualifications for registration in India from those previously published in the Journal except that registration is now for a five-year period in the first instance, subject to renewal.

If suggestions are made for the passing of examinations with reference to registration the applicant should refuse and get in touch at once with the Secretary of the Association.

ENQUIRY CONCERNING SALARY SCALES OF FOREIGN DOCTORS AND NURSES

It has come to the attention of the Secretary that in some areas a questionnaire has been circulated by Government asking for this data. The Secretary is prepared to advise on this matter.

PURCHASE OF HOSPITAL FURNITURE OR EQUIPMENT IN THIS COUNTRY

Hospitals and dispensaries contemplating the purchase of hospital furniture or equipment in Bombay are recommended to approach the Manager of the Hospital Supply Agency. The Agency itself does not stock such furniture but if given the order will book it with a reliable Bombay firm and see that it comes up to specifications and is properly despatched. Firms dealing in such equipment are prepared to give a discount to the H.S.A. for orders placed in this way which would help to meet the overhead of the Agency; it would not be available to the purchaser.

CHRISTIAN MEDICAL SOCIETY OF THE UNITED STATES ANNUAL CONVENTION

Dr William H. Whiteley, National President of the National Christian Medical Society of the United States extends a cordial welcome to Christian doctors who happen to be in the United States, early in June to attend the National Convention of the Society to be held in New York, June 4, 5 and 6, 1953.

Persons desirous of accepting the invitation should write in advance to Dr W. H. Whiteley, Department of Neurological Surgery, Jefferson Medical College and Hospital, 10th & Sansom St., Philadelphia, 7, Pa., U.S.A.

CORRECTION JANUARY JOURNAL

In the last para of p. 34 and the next to the last paragraph on p. 41 the name of the doctor who read the paper on Family Planning is Dr (Mrs) Raj of the Daga Hospital, Nagpur.

POSITION VACANT

A Christian Doctor urgently needed for Saldoha Leper Colony, Bihar. 350 inmates, 2 outdoor clinics. Good living quarters. Salary according to Government scale. Some knowledge of Hindi necessary. Application with certificates to the The Superintendent, Saldoha Leper Colony, P.O. Mohulpahari, Santal Parganas, Bihar.

105 bed Mission Hospital with flourishing surgical service is looking for spiritually mature doctors. Applications invited from both men and women. Working knowledge of Marathi important. In application give age, marital status, pre-medical and medical training and experience, and letters of recommendations from those who know your work and personality. Please include a letter from your Pastor. Address application to Medical Superintendent, W. F. Pierce Memorial Hospital, Wai, Dist. Satara.

FOR SALE

30 M.A. G. E. Victor X-Ray unit, 21 years old, but kept in good condition will be available in about four months. Two tubes, hand operated table, with Trendelenburg, horizontal and vertical positions, portable Bucky; rotary converter to supply power from 110 volt. D.C. Line also available. Has been kept in first class condition. Price should be Rs. 5,000. If interested contact, Medical Superintendent, W. F. Pierce Memorial Hospital, Wai, Satara Dist.

Edited and Published by Dr H. H. Gass, Christian Medical College, Vellore
Printed in India by Hugh Warren at The Wesley Press and Publishing House, Mysore

NURSING NEWS

NURSES' AUXILIARY OF THE CHRISTIAN MEDICAL ASSOCIATION
OF INDIA, PAKISTAN, BURMA AND CEYLON

No. 128 *May* 1953 No. 128

AIM

The Extension of the Kingdom of Christ through
the Ministry of Health and Healing

OBJECTS

1. By mutual co-operation and encouragement and by the cultivation of a fraternal (brotherly) spirit among all Christian nurses.
2. By efforts to secure the highest efficiency in Christian nursing education and work.
3. By the spread of information concerning the need of nursing work and its place as an integral part of the Christian message.
4. To supply a means of effectual co-operation with the Christian Medical Association in considering matters of interest common to the Christian Medical and Nursing professions.
5. To consider the special work and problems of Christian nurses.

PRAYERS

Let us Pray that God may help us to use the Nurses' Auxiliary to extend the Kingdom of Christ.

Let us Pray that we and the Doctor (name) and Nurses (names) with whom we work shall here today hallow God's Name, seek His Kingdom, do His Will.

Let us Pray for our Officers that they and we together may do God's Will.

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EDITORIAL

Can you help to make the Nursing News more interesting by supplying the following:

(*a*) Short descriptions of, or notes on, interesting cases or procedures?

(*b*) Reports of official or social functions in which nursing members of hospitals and dispensaries take some part?

(*c*) 'Write up' of lectures, or of particular illustrations which have made clear some point of nursing technique and which would be interesting if passed on to others?

(*d*) Cuttings, or extracts from books or magazines which are of general interest or helpfulness to nurses? (In this case the source must also be given.)

All articles sent for printing in the News must be in grammatical English and preferably typewritten on one side of the paper only. Otherwise it will be disqualified.

Will members take notice that the V.P.P. system of collecting fees has now been abolished; send your subscription by money order or if by cheque be sure to add 8 annas for bank commission.

SECRETARIES' NOTES

The secretary expects to be in Ootacamund, at Farley during the months of May and June. She will welcome a visit from any members and nurses taking vacation on the Nilgiris.

Miss Alice Clarke

News of Miss Clarke is that she expects to be in India by mid-October. She has been kept busy speaking at meetings and conferences, keeping in mind the claims of the Nurses' Auxiliary.

C.M.A. Biennial Conference

It is not too early to make plans for attending the Biennial Conference of the C.M.A. It will be held in Nagpur from Friday, October 23rd to Monday 26th.

We hope to have a good representation of nurses at the conference. Our executive committee will meet during the conference. The Nurses' Auxiliary Annual General Meeting will also be held.

Touring

February 12th. Left Ootacamund for Tirupattur. Visited the Swedish Mission Hospital. It was a pleasure to meet Miss Von Siddow and her colleague, also Dr and Mrs Sindon. The hospital is beautifully situated, and well equipped. Opportunity was offered to meet the hospital nursing staff, both student and trained; and afterwards, further opportunity was given to have a meeting with the senior staff members.

February 14th. Left Tirupattur by bus *en route* for Madura where Mr Arulasanam met me. Spent a very full day there. In the afternoon I discussed the future of the Tamil area with Mr Arulasanam, the Tamil Area Secretary, and Mr P. Gnanakanmalai. Here in Madura, there are two hospitals—The Wills Pearce Memorial Hospital for Men, with Miss Lang as Nursing Superintendent, and the Women and Children's Hospital with Miss Hoath as Nursing Superintendent. The hospitals adjoin each other and there is an arrangement whereby a complete general training is available for the women nurses. At 5 p.m. the trained staff of the Wills Pearce Memorial gathered for tea and a meeting at which I was given the opportunity to speak. At the conclusion of the meeting, Miss Lang and Miss Hoath took me for a drive round the lake. After dinner a meeting for the whole staff of both the hospitals was arranged and I had another opportunity to speak to the nurses. After a very strenuous but happy day, Mr Arulasanam and Mr Gnanakanmalai escorted me to the station where I caught the mid-night train back to Ooty.

After another three days at home, I left for Ranipet visiting Miss Noordyke at the Scudder Memorial Hospital. Here I was more or less treading on familiar ground, but it was a pleasure to see the place again with its new developments both on the hospital side and in the Nurses' Home. After dinner the nursing staff gathered in their spacious common room where they had a meeting at which I had the privilege of speaking. The next morning, Dr Galan Scudder took me to Vellore for the Vellore Council meeting.

The following day I attended the Executive Meeting of the C.M.A. which kept us busy until 7 p.m. After rushing back to the hospital for dinner, I was able to address the nurses of the Vellore Medical College Hospital.

The next morning, February 28th I was up early and off to Katpadi to board the Cochin Express for Madras. Spending the day doing odds and ends of shopping and preparing for the tour to Assam 11 p.m. found me at the airport where I boarded the night plane to Calcutta.

Reaching Calcutta by 7:30 a.m., there was just time to have breakfast and get the plane to Gauhati, and from there I went by bus to Shillong. The tour in Assam covered many miles by various means of transport as we visited Shillong, Johar, Gauhati, Tezpur, Johat, Chabua, Panitola, Dibrugarh, Silchar and Durtlang. So look out for the story of the Assam tour in your next NURSING NEWS!

RETIREMENT OF MISS S. JOHNSON

Another missionary nurse leader has left her adopted country to retire in her homeland in the U.S.A.

Miss Sigrid Johnson came to Ongole, South India, in 1916 and has served as a nurse in the Clough Memorial Hospital during all the intervening thirty-seven years. She established the school of nursing connected with the hospital in 1923, and over two hundred nurses have finished their nursing course under her guidance.

In the year of 1940 the government presented her with the Kaisar-i-Hind medal for public service in India.

One of Miss Johnson's outstanding contributions has been the editing of a Text-Book for Nurses in India, English and Telugu editions. This Text has been and continues to be used widely in nursing education throughout India.

Realizing that her strength was failing and that others could now better carry the burden, Miss Johnson relinquished her service with graciousness and with equanimity.

A beautiful clock has been installed in the nursing office of the Clough Memorial Hospital in her honour, a fitting symbol of the helpful, regular, constant, full-time service which Miss Sigrid Johnson rendered towards the Christian nursing profession in India.

—H. BENJAMIN

All members who knew Miss Johnson, especially those who lived in the South, will, I am sure, wish her a happy retirement. On behalf of the Auxiliary, the Secretary wishes to place on record, our thankful appreciation for all Miss Johnson has contributed to the Christian nurses of India.—*Secretary*

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BUERGER'S DISEASE

By Mrs H. M. Vorstermans, R.N.R.M., M.B.E.

Matron, Kolar Gold Field Hospital

Thrombo-angiitis obliterans, or Buerger's disease, is by no means uncommon in South India. In South India, as elsewhere, the disease appears to be practically restricted to males chiefly affecting the lower limbs, patients usually presenting themselves for treatment in the forties. The pathology is indicated by the name of the disease, there being an inflammatory thickening of the artery which diminishes its lumen, a tendency which is frequently unfavourably affected by the superimposition of thrombi. In consequence the blood supply of the lower extremities becomes progressively diminished, although periods of improvement occasionally take place when collateral channels open up and temporarily improve the circulation. Eventually serious circulatory embarrassment takes place, giving rise to intermittent claudication cyanosis, pallor with elevation and tropic changes, such as ulcers, fissures, or actual gangrene.

Thrombo-angiitis is the commonest cause of claudication in men under 30 years of age. Most of the cases seen in this hospital are late when they present themselves, and already have trophic changes in the toe or foot and have posterior tibial and dorsalis pedis arteries (and sometimes popliteal arteries) which cannot be palpated, and are rather too late to respond well to graduated vascular exercises to encourage the collateral circulation.

The operation of sympathectomy gives good results, especially in the earlier stages of minor nutritional inadequacy, by dilating collateral arteries, abolishing spasm of affected vessels, and by relieving pain. The operation is performed by an extraperitoneal approach. A Harris incision is made which is transverse and reaches from the umbilicus to the quadratus lumborum. The patient is placed upon the good side, and the cholecystectomy bridge is raised. The rectus sheath is opened, and the rectus retracted medially, the oblique muscles being divided. The peritoneum is not opened, but it is retracted towards the middle line. The lumbar sympathetic chain is located, first by touch, and then by sight, on the sides of the lumbar vertebral bodies, overlapped by the inferior vena cava on the right side, and the aorta on the left. After identification the chain with the second, third, and fourth lumbar ganglia, are removed by dissection, cutting its small filamentous connections, and avoiding the large lumbar veins. The muscles and rectus sheath are then repaired in layers. Post-operative course is generally smooth, but a minor degree of inhibition ileus is common for 2–3 days. Increase in heat of the affected limb, and relief of pain are noticeable on the day of operation.

In the post-operative nursing in such cases particular attention will be directed towards the following:

(1) posture and protection of the limb the viability of which is threatened,

(2) temperature observations on the affected limb,

(3) general nursing care follows the lines of a major abdominal operation because although this is not a true abdominal in the usual sense of the word, since it is in fact an extraperitoneal operation,

it is nevertheless a procedure which is frequently followed by a variable degree of 'inhibition ileus' with its concomitant abdominal distension. In some cases decompression by continuously indwelling Ryle's tube may be very advantageous. This distension apart, immediate relief of pain in the affected limb is a common post-operative development, and the general course of such cases is as a rule smooth and trouble-free.

PLAYING THE PART OF THE GRACIOUS ONE

From Love's Unfading Flower: by the Rev. John Deane of New Zealand Bible Training Institute. 1 Cor. 13: 4.

Love is Kind

Just as the word for Love is a new word for the Greek language, so this word to describe Love is new, and occurs here only in the New Testament. It describes one who plays the part of a gracious one, who lays himself out for kindly service. It describes one who has a passion for usefulness, without consideration of the cost to self.

If 'suffereth long' describes self-restraint of Love, 'is kind' expresses the self-abandonment of Love.

Paul was stoned at Lystra, and suffered it in patient love. That was 'Love suffering long'. But Paul returned to Lystra, there to preach the Gospel again. That was 'Love is kind'. Love suffers in silence, because it is kind, and wants to bring a blessing and a benefit to the one who does wrong.

For the joy that was set before Him, Jesus Christ endured the cross He knew how worthwhile it would be to endure it. 'After that the kindness and love of God appeared . . .' (Tit. 3:4). How often the word 'loving kindness' appears in the Old Testament. 'Be ye kind one to another,' writes Paul to his friends.

Love recognizes the wrongs done to it, but it lays them at the feet of God, so that its hands may be unencumbered. For how can you serve others, if in either hand you have a bag of wrongs done to yourself?

It is the price Love pays for the privilege of serving. Parental Love pays the price. All children are ungrateful, their ignorance makes them so. Some are wilfully ungrateful. Many a lad murders his mother by breaking her heart.

It is the cost of Christian service. Paul paid it. 'I will ever spend and be spent for you; though the more abundantly I love you, the less I be loved' (2 Cor. 12:15).

To offer rebuke or advice will often earn a man's hate. God sent His Son to redeem, but they would have none of Him. It may be costly to be a true friend. But love is kind just the same.

Behold Love on the Cross. His hands may be nailed, but they are free. He carries no burdens of His own. His heart is at leisure. He can pray for His murderers. He can provide for a suffering mother. He can forgive a thief. He can keep a still tongue, and die for mockers.

Are you kind? How active is your love? In your daily contacts with men and women, is there a thoughtful love that melts their hearts? Do

you think of them and their needs? Do they find that you have anticipated their difficulties, and seen into their burdens and sorrows, and put your shoulder under them, to lighten the load? Does God know that He can always lay a little extra on you, and that you will not complain? Do others know? Do people catch you looking round for some way that you can help them?

O Love that will not let me go, I bring my cup to Thee, fill it to the brim with this quality also. May I become so like Thee in the kindness of Love, that men may know that Thou dost really live as Master in my life.

'As the Father hath sent Me,
So send I you—to leave your life's ambition,
To die to dear desire, self-will resign;
To labour long and love where men revile you,
So send I you—to lose your life in MINE.'

Love Envieth Not

We have thought together of the silence and of the service of Love. We have seen how it endures without flaming to anger, and how it dismisses self that it may be free to serve. Now we have 'Love knows not jealousy'.

Think of the Environment of Jealousy

The sphere where jealousy works is the sphere where there are inequalities. Life is full of these. There is such a diversity of gifts among people, and such diversity of opportunities. One life differs from another in mysterious ways. Things over which we have no control enter into our lives to vary them from another's.

Then, it is a human tendency to compare ourselves with others. This is a major cause of discontent, envy, jealousy and the like.

Now think of the Outlook of Love

'Love knows not jealousy,' and for two reasons. In the first place Love lives in a realm where envy has no place. Envy can only operate amongst earthly gifts and gains. For Love these form no part in life.

We are not jealous of those who have less than we have. If we have luscious fruit we do not envy those who have none. I do not envy the man whose harvest of success is reaped in the fields of shame.

Foolishly we may envy those who have fine homes, nice motor cars, a fat Bank balance, and such things. But these do not bring happiness or content, or peace, or safety, or eternal reward. He who enjoys Divine Love has more and better than all these.

If my personality is indissolubly joined with the Eternal Lover, if I am altogether one with Him, if He is to me a blessed Husband, have I not as much as any other human being can ever have of things worthwhile? All reason for envy is gone.

And then, in the second place, Love's passion is to give, not to get. As for envy, it only operates in the realm of getting. Love's eyes are on the empty-handed, not the full. Love does not measure man's fullness, but meets man's need.

In the final analysis, jealousy is selfish, and can have no power over those who have left self behind. And Love has done that. Love measures its gains by the gifts it makes; and its success by its sacrifice.

Friends could tell when Dr A. T. Pierson had done some nice little service, or made some nice little gift, for his face would light up with special happiness. To give and serve made him specially glad.

'The vine from every living limb bleeds wine;
Is it the poorer for that spirit shed?
The drunken and the wanton drink thereof;
Are they the richer for that gift's excess?
Measure thy life by loss instead of gain;
Not by the wine drunk, but the wine poured forth.
For love's strength standeth in love's sacrifice;
And whoso suffers most has most to give.'

How perfectly exemplified this was in the life of Jesus Christ. Though He was rich, yet He became poor. There was no jealousy or envy. His hands were full, no one could give Him anything. Because His hands were full and the hands and hearts of others were empty, He came to share His riches. He came not to be ministered to, but to minister.

He ever sought out the poor, the needy, the sick, the sinful, in order to impart His most gracious gifts.

He finally gave Himself for us on the Cross, so that He might give Himself to us through His Spirit.

Herein was Love that knew not jealousy.

Let us seek this love that looks to give and not to get. Let us not be like the shareholders who care not for any communication unaccompanied by dividends.

Let us not be like many who have money and who tend to imprison every penny and then send it out to get another penny.

Let us live to give, this is the way of Love.

We have within us, to inspire us, the presence of One who so loves.

DAILY BIBLE READINGS

EVERY MORNING

Be sure to read the assigned passage carefully before attempting to answer the questions.

1. *Is there any example for me to seek to follow by God's help?*
2. *Is there a command to be obeyed?*
3. *Is there a sin for me to avoid or to forsake?*
4. *Is there a promise for me to claim; if so, what are its conditions?*
5. *What does this passage teach me (by illustration or statement) about Jesus Christ, God, myself, His will for my life?*
6. *Is there something in this passage which should be my prayer for today?*

1953

The Daily Reading List for 1953 is that issued by the *Scripture Union*, and is reproduced by their kind permission. Helpful notes on these readings may be obtained from the Rev. Paul Das, North India Christian Tract and Book Society, 18 Clive Road, Allahabad.

'Daily Bread' Notes by the Rev. Guy H. King—Re 1-8 per year.
Daily Notes on the Scripture Portions—Re 1-8 per year.

It is also recommended that Scripture reading and study groups be arranged by hospital staffs.

June	Daily Text to be Learned by Heart	Reference Text
1. 1 Cor. 3: 1-23	Ye are God's building	Col. 2: 6, 7
2. ,, 4: 1-21	Why dost thou glory?	1 Pet. 4: 11
3. ,, 8: 1-13	If meat make my brother to offend, I will eat no flesh while the world standeth ...	Rom. 14: 21
4. ,, 9: 1-14	For our sakes, no doubt this is written ...	Rom. 15: 4
5. ,, 9: 15-27	So run, that ye may obtain	Phil. 2: 16
6. ,, 10: 1-15	God is faithful, Who will not suffer you to be tempted above that ye are able ...	2 Cor. 12: 9
7. ,, 10: 16-33	The earth is the Lord's and the fullness thereof	Deut. 10: 14
8. ,, 11: 1-16	Be ye followers of me, even as I also am of Christ	Heb. 6: 12
9. ,, 11: 17-34	As often as ye eat this bread and drink this cup, ye do show the Lords death till He come	Rev. 22: 20
10. ,, 12: 1-11	There are diversities of gifts but the same spirit...	Eph. 4: 4
11. ,, 12: 12-31	Covet earnestly the best gifts	Jam. 1: 17
12. ,, 13: 1-13	Love never faileth	Gal. 5: 22
13. ,, 14: 1-20	I will sing with understanding	Col. 3: 16
14. ,, 14: 21-40	Let all things be done decently and in order	Gen. 1: 31
15 ,, 15: 1-18	Christ died for our sins according to the Scriptures	Is. 53: 6
16. ,, 15: 19-34	He must reign, till He hath put all enemies under His feet	Heb. 1: 8
17. ,, 15: 35-49	Sown in weakness. . . . Raised in power ...	2 Cor. 13: 4
18. ,, 15: 50-58	The dead shall be raised incorruptible ...	John 5: 28
19. ,, 16: 1-24	Watch ye, stand fast in the faith, quit you like men, be strong	2 Tim. 2: 1
20. Jer. 1: 1-19	Whatsoever I command thee thou shalt speak	Mk. 16: 15
21. ,, 2: 1-13	My people have . . . hewed them out . . . broken cisterns	John 4: 14

June	Daily Text to be Learned by Heart	Reference Text
22. Jer. 7 : 1-20	Amend your ways and your doings ...	Matt. 4 : 17
23. ,, { 9 : 23-26 / 10 : 1-13	He hath made the earth by His power ...	Heb. 11 : 3
24. ,, 15 : 10-21	Thy word was unto me the joy and rejoicing of mine heart	Ps. 119 : 97
25. ,, 17 : 1-18	The heart is deceitful above all things, and desperately wicked: who can know it? ...	Luke 16 : 15
26. ,, 17 : 19-27	Hallow ye the Sabbath day as I command your fathers	Ex. 28 : 8
27. ,, 18 : 1-17	Behold, as the clay is in the potter's hand, so are ye in mine hand	Is. 64 : 8
28. ,, 23 : 1-8, 23-32	The Lord our Righteousness	Phil. 3 : 9
29. ,, 24 : 1-10	They shall return unto me with their whole heart	Rom. 6 : 17
30. ,, 29 : 1-14	Ye shall seek me, and find me, when ye shall search for me with all your heart ...	Rom. 6 : 17
July		
1. Jer. 31 : 1-20	I have loved thee with an everlasting love ...	Deut. 33 :12
2. ,, 31 : 27-37	I will forgive their iniquity, and I will remember their sin no more	Eph. 1 : 7
3. ,, 33 : 1-16	Praise the Lord of hosts, for the Lord is good	Ps. 107 : 1
4. ,, 36 : 1-18	Go thou and read the words of the Lord in the ears of the people in the Lord's House	Is. 55 : 11
5. ,, 36 : 19-32	They hearkened not	Deut. 28 : 45
6. ,, 37 : 1-21	Pray now unto the Lord our God for us ...	Matt. 5 : 44
7. ,, 38 : 1-13	He that remaineth shall die . . . He that goeth forth shall live	John 3 : 36
8. ,, 38 : 14-28	Obey the voice of the Lord and thy soul shall live	1 John 2: 1
9. Luke 1 : 1-20	They were both righteous before God ...	Ps. 34 : 17
10. ,, 1 : 21-38	He shall be great and shall be called the Son of the Highest	Phil. 2 : 9
11. ,, 1 : 39-58	My spirit hath rejoiced in God My Saviour	Is. 12 : 3
12. ,, 1 : 59-80	Blessed be the Lord God of Israel; for He hath visited and redeemed His people ...	Eph. 1 : 3
13. ,, 2 : 1-20	Unto you is born this day a Saviour, which is Christ the Lord	Is. 9 : 6
14. ,, 2 : 21-38	Mine eyes have seen thy salvation ...	Acts. 4 : 12
15. ,, 2 : 39-52	All that heard Him were astonished at His understanding	Ps. 119 : 27
16. ,, 3 : 1-14	Every tree which bringeth not forth good fruit . . . is cast into the fire	Matt. 7 : 15, 20
17. ,, 3 : 15-23	Thou art my beloved Son; in Thee I am well pleased	Acts 8 : 37
18. ,, 4 : 1-15	Jesus answered and said unto Him, Get thee behind me Satan	Jam 4 : 7
19. ,, 4 : 16-30	He began to say unto them, This day is this Scripture fulfilled	John 5 : 39
20. ,, 4 : 31-44	His word was with power	Matt. 28 : 18
21. ,, 5 : 1-16	Nevertheless at thy word I will	John 2 : 5
22. ,, 5 : 17-26	They were all amazed and they glorified God	Ps. 145 : 4
23. ,, 5 : 27-39	The days will come when the bridegroom shall be taken away	John 14 : 3
24. ,, 6 : 1-19	He went to pray and continued all night in prayer	Col. 4 : 2
25. ,, 6 : 20-38	Be ye therefore merciful, as your Father also is merciful	Eph. 4 : 31
26. ,, 6 : 39-49	Why call ye me Lord, Lord, and do not the things which I say	Jam. 1 : 22
27. ,, 7 : 1-17	When the Lord saw her, he had compassion on her	Ps. 111 : 4
28. ,, 7 : 18-35	Art thou He that should come? Or look we for another	Jer. 23 : 5
29. ,, 7 : 36-50	Her sins which are many are forgiven; for she loved much	1 John 4 : 10
30. ,, 8 : 1-15	He that hath ears to hear, let him hear ...	Prov. 16 : 16
31. ,, 8 : 16-25	My mother and my brethren are these which hear the Word of God and do it ...	Jam. 1 : 22

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